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ABSTRACT

A study of ways of improving the accuracy and currency of the present measure of poverty used in the formula that allocates funds authorized by Title I of the Elementary and Secondary Education Act (ESEA) is summated by this report. It Deals with measuring the current status of the poor rather than with the causes or solutions to poverty. The current measure of poverty used is the Orshansky poverty definition; but in addition, other measures used include dollar cut-offs unadjusted for family size, various percentiles of the income distribution, and various percentages of median family income. The study examines regional, climatic, metropolitan, urban, suburban, and rural differences in the poverty measure; the differences due to family size and head of household; and the availability of state and other subnational data more currect than the decennial census, including cost of living, cost of housing, labor market and job availability. Among some of the major discussion areas addressed by the report are the limitations in the official measure of poverty, various proposals to change the official poverty measure, and standards of poverty for the working poor compared with those dependent largely on public programs for support. (Author/AM)

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THE MEASURE OF POVERTY

A Report to Congress as Mandated by
The Education Amendments of 1974

April 1976

UD016131

U.S. Department of Health, Education, and Welfare

Section 823 of the Education Amendments of 1974
(Public Law 93-380)

Sec. 823 (1) The Assistant Secretary shall supervise, with the full participation of the National Institute of Education and the National Center for Education Statistics, a thorough study of the manner in which the relative measure of poverty for use in the financial assistance program authorized by Title I of the Elementary and Secondary Education Act of 1965 may be more accurately and currently developed. The study of the relative measure of poverty required by this subsection shall be adjusted for regional, climatic, metropolitan, urban, suburban, and rural differences and for family size and head of household differences. The study required by this section shall consider:

(a) the availability of data more current than the decennial census including data collected by any agency of the Federal Government which are relevant except that data so collected shall not disclose the name of any individual or any other information customarily held confidential by that agency but shall include aggregate information to the extent possible;

(b) the availability and usefulness of cost-of-living data;

(c) the availability and usefulness of cost-of-housing data;

(d) the availability and usefulness of labor market and job availability data;

(e) the availability and usefulness of data with respect to prevailing wage rates, unemployment rates and income distribution; and

(f) the availability of data with respect to eligibility criteria for aid to families with dependent children under a state plan approved under Title IV of the Social Security Act.

(2) The Assistant Secretary is authorized and directed to prepare and submit to the Congress not later than one year after the effective date of this Act a report of the study conducted under this subsection including recommendations with respect to the availability of data designed to improve the relative measure of poverty for the program of financial assistance authorized by Title I of the Elementary and Secondary Education Act of 1965. Whenever the Assistant Secretary determines that data specified in paragraph (1) of this subsection are not available or that it is impractical to obtain data for each relevant area or category, the report shall contain an explanation of the reasons therefor.

THE UNDER SECRETARY OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON, D.C. 20201

APR 30 1976

TO THE CONGRESS OF THE UNITED STATES:

I am pleased to transmit the report on the measure of poverty, in compliance with Section 823 in Public Law 93-380. A Poverty Studies Task Force of the Subcommittee on Education for the Disadvantaged and Minorities under the Federal Interagency Committee on Education was established by the Assistant Secretary for Education to conduct the study. It examines methods by which the measure of poverty used in the allocation formula for Title I of the Elementary and Secondary Education Act of 1965 may be made more accurate and current. To explore the relevant areas in depth, the Task Force has had the support of many Federal agencies and departments, for which we are greatly indebted.

The report discusses technical aspects of poverty measurement and lays out the administrative, analytical, statistical, and budgetary implications of alternative measurement schemes. We hope that this effort will assist Congress and the various components of the Executive Branch who are involved in deliberations about the measure of poverty not only for the Elementary and Secondary Education Act but also for other Federal programs and for general analytical purposes.

A series of Technical Papers will supplement the present report with more detailed and technical material. These will be issued by the Chairman of the Task Force as they become available.

Sincerely,

Marjorie Lynch
Under Secretary

CONTENTS

Page

FORWARDING LETTER iii

PREFACE ix

LIST OF MAPS xv

EXECUTIVE SUMMARY xxi

INTRODUCTION 1

I. THE FEDERAL POVERTY DEFINITION -- HISTORY AND APPLICATIONS 5

- HISTORY 5
- STATISTICAL CONSTRUCTION 7
- STATISTICAL SERIES ON POVERTY 11
- ADMINISTRATIVE USAGE OF POVERTY MEASURES 14

II. CONCEPTS OF POVERTY MEASUREMENT 19

- SOCIAL AND CULTURAL CONCEPTIONS OF POVERTY 19
- ECONOMIC MEASURES OF POVERTY 20
- SETTING A POVERTY LEVEL 21
  Standards of Physical Needs, 22; Adjustments for Family Size and Composition, 24; Geographic Cost-of-Living Differences, 26; Updating the Standard, 27
- INCOME AND RESOURCES 28
  Accounting Period, 29; Consumption Measures, 30; Wealth, 31; Taxes, 31; In-Kind Income, 32; Consumption Unit, 34; Choosing an Income Definition, 35

III. DATA AVAILABILITY AND LIMITATIONS 37

- DATA FOR MEASURING NEEDS 38
  Food, 38; Housing, 40; Other Needs, 44; Standards Based on Actual Consumption Data, 45; Geographic Equivalences, 48; Updating the Standards, 50
- DATA FOR MEASURING RESOURCES 52
  Base Data: The Decennial Census, 52; Current Population Survey, 55; Administrative Records, 56; Unemployment Data, 57; The Job Market and Wage Rates, 60; Correcting Cash Income, 60; Adding Other Sources of Income, 62; Different Accounting Periods, 66

IV. CONSTRUCTING POVERTY MEASURES 69

- RELATIVE MEASURES OF POVERTY 69
- POVERTY LEVEL MARKET BASKET 72
- ORSHANSKY UPDATE 75
- ADJUSTMENTS FOR FAMILY SIZE AND COMPOSITION 78
- GEOGRAPHIC COST-OF-LIVING DIFFERENCES 81
  Components of Geographic Differences, 82; Data Sources for Measuring Geographic Differences, 83; Major Conceptual Problems, 85; Evidence of Geographic Differences, 86; Farm-Nonfarm Differences, 90; Attempts to Overcome Conceptual Problems and Data Limitations, 91
- UPDATING THE STANDARD 91
- INCOME AND RESOURCES 97
  General Limitations, 97; The Accounting Period, 97; Assets, 98; Taxes, 99; In-Kind Income, 100; Consumption Unit, 100

V. ALTERNATIVE POVERTY COUNTS BASED ON AVAILABLE DATA 103

- ALTERNATIVE POVERTY DEFINITIONS 104
- THE NUMBER OF POOR, 1974 107
- CHARACTERISTICS OF THE POOR, 1974 111
  Persons in Female-Headed Families, 115; Blacks, 115; School-Age Children, 115; Elderly, 119; Families with Earnings, 119
- SUMMARY OF POVERTY COUNTS AND CHARACTERISTICS 122
- DIFFERENCES OVER TIME 122
- GEOGRAPHIC DISTRIBUTION OF POVERTY 128

VI. ANALYTIC AND STATISTICAL AGENDA 137

- ANALYTIC STUDIES 137
  Educational Disadvantage, 137; Setting a Poverty Level, 138; Income and Resources, 140
- SURVEYS 140
  New Income Survey, 141; Geographically Sensitive Pricing Survey, 141; Low-Income Consumption Survey, 142; Household Food Consumption Survey, 142
- SUMMARY 143

VII. PROGRAM IMPACT 145

- GENERAL PROGRAM IMPACT 145
- IMPACT ON TITLE I OF ESEA 148
  Background, 148; Impact on Selected States, 150; Impact of Changing the Poverty Definition, 153; Impact of Updating the Poverty Count, 155; Impact of Changing the Allocation Formula, 158; Joint Impact of Changing the Poverty Definition and Updating the Poverty Count, 160

TABLES

Page

1. Poverty Cutoffs in 1974 by Sex of Head, Size of Family, and Number of Related Children Under 18 Years Old, by Farm-Nonfarm Residence.......... 10

2. Weighted Average Poverty Cutoffs in 1974 by Size of Family and Sex of Head, by Farm-Nonfarm Residence.......... 11

3. 1974 Orshansky Poverty Thresholds and Community Services Administration Income Eligibility Guidelines.......... 16

4. Weekly Cost of Food at Home, Estimated for 1974 Low-Cost Plan and 1964 Low-Cost Plan, September 1974 Prices.......... 41

5. Comparative Data on Personal Income by Source, Selected Major Government Statistical Series U.S., 1969.......... 61

6. Median Income by Size of Family Unit for United States and Selected States, 1969.......... 71

7. Comparison of Median Family Income and Official Poverty Cutoff for a Family of Four, 1959-1974.......... 72

8. Sensitivity Analysis of 1974 Poverty Cutoffs.......... 76

9. Size of the Poor Population Under Current and Revised Poverty Cutoffs, 1974.......... 77

10. Revised Equivalence Scale for Urban Families of Different Size, Age, and Composition.......... 79

11. Equivalence Matrix Implicit in Current Poverty Measure.......... 80

12. Indexes of Comparative Costs Based on a Lower Budget for a Four-Person Family, Autumn 1974.......... 87

13. Family Budget and Fixed Weight Indexes of Family Living Costs, Autumn 1974.......... 88

14. Comparison of the Consumer Price Index with Price Indexes for Special Groups, 1953-1975.......... 93

15. Distribution of Families by Number of Months in Poverty on a Monthly Basis by Poverty Status on an Annual Basis, 1970.......... 99

16. Poverty Status in 1974 Based on the Current Definition and a Definition Based on Household Income.......... 101

17. Comparison of Poverty Population Under Selected Alternative Definitions of Poverty, 1974.......... 109

18. Selected Characteristics of the Poverty Population Under the Current Definition, 1974.......... 112

19. Poverty Rates by Selected Characteristics for Alternative Poverty Definitions, 1974.......... 113

20. Distribution of the Poverty Population by Selected Characteristics for Alternative Poverty Definitions, 1974.......... 114

21. Percent of Population in Poverty for Selected Alternative Poverty Definitions, by State, 1969.......... 129

22. Percent of Related Children Aged 5-17 Years in Poverty for Selected Alternative Poverty Definitions, by State, 1969.......... 130

23. Impact of Changes in the Allocation Formula on the Distribution of Title I Funds, 1975.......... 151

24. Impact of Alternative Definitions of Poverty on Allocation of Title I Funds, 1975.......... 152

25. Comparison of Title I Funds That Would be Received Using 125 Percent and 150 Percent of the Present Poverty Line with the Amount That Would be Currently Received.......... 154

26. Comparison of Title I Funds That Would be Received Using a Single Poverty Line with the Amount That Would be Currently Received, 1975.......... 156

27. Title I Funds to be Received by Each State in 1975 Using Current Allocation Formula and Alternative Estimates of Children in Poverty.......... 157

28. Comparison of Title I Funds That Would be Received Under Alternative Allocation Procedures with Amount That Would be Currently Received.......... 159

29. Title I Funds to be Received by Each State in 1975 Using the 1973 Count of Children in Poverty and a 25 Percent Increase in the Poverty Line.......... 161

FIGURES

Page

1. Average Annual Percent Change in the Cost of the Economy Food Plan and in the Consumer Price Index (All Items and Food), 1959-1973 12
2. Number of Persons in Poverty and Percent of Population in Poverty, 1966-1974 13
3. Poverty Rates for Persons, Families, and Unrelated Individuals Under Alternative Poverty Measures, 1974 108
4. Distribution of Poor Persons by Living Arrangements, Current Poverty Measure and Single-Dollar Poverty Cutoffs, 1974 110
5. Persons in Female-Headed Families: Poverty Rates and Percent of the Poverty Population Under Alternative Poverty Definitions, 1974 116
6. Black Persons: Poverty Rates and Percent of the Poverty Population Under Alternative Poverty Definitions, 1974 117
7. School-Age Children: Poverty Rates and Percent of the Poverty Population Under Alternative Poverty Definitions, 1974 118
8. Elderly Persons: Poverty Rates and Percent of the Poverty Population Under Alternative Poverty Definitions, 1974 120
9. Percent of Poor Families and Poor Unrelated Individuals Receiving Social Security Under Alternative Poverty Definitions, 1974 121
10. Percent of Poor Families with Earnings and Percent of Poor Families with Head Working Full-Time, Year-Round 123
11. Number of Persons in Poverty Under Alternative Poverty Definitions, for Selected Years, 1967-1974 124
12. Percent of Persons in Poverty Under Alternative Poverty Definitions, for Selected Years, 1967-1974 127
13. Regional Share of Poor Persons Under Alternative Poverty Definitions as a Ratio of Regional Share Under Current Poverty Definition, 1969 131
14. Regional Share of Poor School-Age Children Under Alternative Poverty Definitions as a Ratio of Regional Share Under Current Poverty Definition, 1969 134

PREFACE

Section 823 of the Education Amendments of 1974 (PL 93-380) requires a

> thorough study of the manner in which the relative measure of poverty for use in the financial assistance program authorized by Title I of the Elementary and Secondary Education Act of 1965 may be more accurately and currently developed.

The financial assistance program referred to is administered by the Commissioner of Education, through the Office of Education of the Department of Health, Education, and Welfare. A prominent feature of the program is the use of a formula prescribed by section 103 of the Elementary and Secondary Education Act for the annual distribution of Federal funds to school districts. The amount appropriated has increased from approximately $1 billion in 1966 to $1.6 billion in 1976. A significant factor in the formula is the number of school-age children 5 to 17 in poor families within each school district.

Incorporation of the Poverty Measure in Title I

Prior to the enactment of the Education Amendments of 1974, the formula which was used to determine the amount of a grant for which a local educational agency was eligible (i.e., its "entitlement") under Title I was based, in part, on the number of children in families having an annual income of less than the "low-income factor." This factor was authorized to be $2,000. (The low-income factor was $3,000 but was to be applied only when authorization using $2,000 was fully funded. This never happened, so $2,000 was the factor used until the 1974 Amendments.) The 1974 Amendments revised the Title I formula and specified a new measure of low-income -- the Federal government's official statistical definition of poverty (also known as the Orshansky poverty index, Social Security Administration (SSA) poverty definition, the Census Bureau poverty lines, etc.). Maps showing the geographic distribution of children aged 5 to 17 from families below the poverty level for the Title I formula, follow this Preface.

The poverty level is only one element in the Title I formula. It is, however, a critical element and is the subject of this study, which addresses the accuracy and currency of the poverty measure.

In addition to this study of the measure of poverty, the Education Amendments of 1974 mandated several other studies and special surveys which could make possible future improvements in the allocation formula and other aspects of the Title I programs. The following table shows the titles of these studies, the agency responsible for their conduct, and their due dates:

	Study	Responsible Agency	Due Date
1.	Study of purposes and effectiveness of compensatory education programs (section 821)	National Institute of Education	Sept. 1977

	Study	Responsible Agency	Due Date
2.	Survey and study for updating number of children counted (section 822)	Secretary of Commerce and Secretary of Health, Education, and Welfare	Dec. 1976 (822a) June 1977 (822b)
3.	An evaluation of the Title I programs which is to include: (section 151)	Commissioner of Education	Findings to be reported as available
	(a) Evaluations describing and measuring program and project impact, the most comprehensive of which is the study of the sustaining effects of compensatory education on basic cognitive skills.		
	(b) Development and publication of standards for program/project evaluation.		
	(c) Provision, where appropriate, for joint Federal/state sponsored evaluations.		
	(d) Provision of technical assistance to State Education Authorities (SEAs).		
	(e) Development of a system for the gathering and dissemination of effective projects, practices, and evaluation results.		
4.	Survey of the numbers of economically and/or educationally disadvantaged children who do or do not receive Title I services. (section 417 (a)(2))	Commissioner of Education	Fall 1977
	This "Participation Study" will be incorporated under the "Study of the Sustaining Effects of Compensatory Education on Basic Cognitive Skills." (section 151)		

Related work has been mandated in two other recent legislative acts. In the Comprehensive Employment and Training Act, the Secretary of Labor is directed to develop and maintain comprehensive household budget data at different levels of living, including a level of adequacy. Any such review of the "level of adequacy" must necessarily be closely related to measures of poverty. The Housing and Community Development Act of 1974 makes the Secretary of the Department of Housing and Urban Development (HUD) responsible for adjustments in the poverty measure to reflect regional and area variations in the cost of living. The Conference Report accompanying it directs the Secretary to develop or obtain data with respect to the "extent of poverty" by metropolitan areas and to submit such data to the Congress as part of a March 31, 1977 report.

Scope and Performance of this Study

Coverage of this study has been broadened to include implications of the findings of the study for the poverty-related programs of all affected Federal departments and agencies. The Title I program of the Elementary and Secondary Education Act is given the most detailed treatment, both to meet the legislatively-mandated specifications for the study and also to serve as a prime example of application of the concepts of poverty measurement to Federal programs.

It is probable that a variety of poverty measures will continue to be used for statistical and administrative purposes within the Federal government. For this reason, an important objective of this report has been the full discussion and documentation of the major elements of currently used and potentially usable poverty measures. The material containing essential supporting documentation for this study has been assembled into technical papers. These have been written to stand alone as complete technical treatments of specific subjects. They may, therefore, be repetitive when compared to one another or to the text of the report. Similarly, within the text of the report, some redundancy may occur. In both cases, the repetition of material was considered to be beneficial from the point of view of completeness and clarity in the treatment of certain concepts.

This study was performed under the direct guidance of the Poverty Studies Task Force of the Subcommittee on the Education of the Disadvantaged and Minorities, Federal Inter-Agency Committee on Education. Technical papers are being prepared at the request of, under the direction of, and subject to review by the Task Force members. The study draws on material in these papers, some of which have not been completed at the time of publishing this report. Some papers are primarily the work of one or two persons; these are attributed to their authors. Others result from the collective input of Task Force members or advisors and no specific attribution is given other than to the Task Force as a whole.

References relevant to this report are too numerous for a separate listing. One can refer to Technical Paper III, "Literature Review and Annotated Bibliography of Studies on the Measurement of Poverty" which contains a compilation of major sources and materials. Other pertinent references are cited throughout the report in footnotes and in the individual technical papers. The following listings show members of the Poverty Studies Task Force by appropriate Federal departments and agencies, those deserving special thanks, and the titles and authors of the technical papers.

Federal Interagency Committee on Education
Subcommittee on Education for the Disadvantaged and Minorities

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The Institute for Research on Poverty, University of Wisconsin

Killalea Associates, Incorporated

Survey Research Center, University of Michigan

Urban Systems Research & Engineering, Inc.

TECHNICAL PAPERS

I.	Documentation of Background Information and Rationale for Current Poverty Matrix	Mollie Orshansky Social Security Administration
II.	Administrative and Legislative Usages of the Terms "Poverty," "Low Income," and Other Related Items	Poverty Studies Task Force with assistance from Ellen Kraus
III.	Literature Review and Annotated Bibliography of Studies on the Measurement of Poverty	Urban Systems Research and Engineering, Inc.
IV.	Bureau of Labor Statistics Family Budgets Program	Mark Sherwood Bureau of Labor Statistics
V.	The Consumer Price Index	Jill King Mathematica, Inc.
VI.	Wealth and the Accounting Period in the Measurement of Means	Nelson McClung and Eugene Steuerle Department of the Treasury
VII.	In-kind Income and the Measurement of Poverty	Janice Peskin Health, Education, and Welfare
VIII.	The 1972-73 Consumer Expenditure Survey	Jill King Mathematica, Inc.
IX.	Inventory of Federal Data Bases Related to the Measurement of Poverty (a) Non-Census Data Bases (b) Census Data Bases	 Connie Citro, Mathematica, Inc. Bureau of the Census
X.	Effect of Using a Poverty Definition Based on Household Income	Jack McNeil, Doug Sater, Arno Winard Bureau of the Census
XI.	Update of the Orshansky Index	Mollie Orshansky Social Security Administration
XII.	Food Plans for Poverty Measurement	Betty Peterkin Department of Agriculture
XIII.	Geographic Differences and Relative Poverty	Jack McNeil Bureau of the Census
XIV.	Relative Measure of Poverty	Stanley Stephenson Health, Education, and Welfare
XV.	Analytic Support for Cost-of-Living Differentials in the Poverty Thresholds	Thomas Carlin Department of Agriculture
XVI.	Implications of Alternative Measures of Poverty on Title I of the Elementary and Secondary Education Act	Abdul Khan and Herman Miller Health, Education, and Welfare
XVII.	The Sensitivity of the Incidence of Poverty to Different Measures of Income: School-age Children and Families	Survey Research Center University of Michigan
XVIII.	Characteristics of Low-Income Populations Under Alternative Poverty Definitions	Lawrence Brown Health, Education, and Welfare

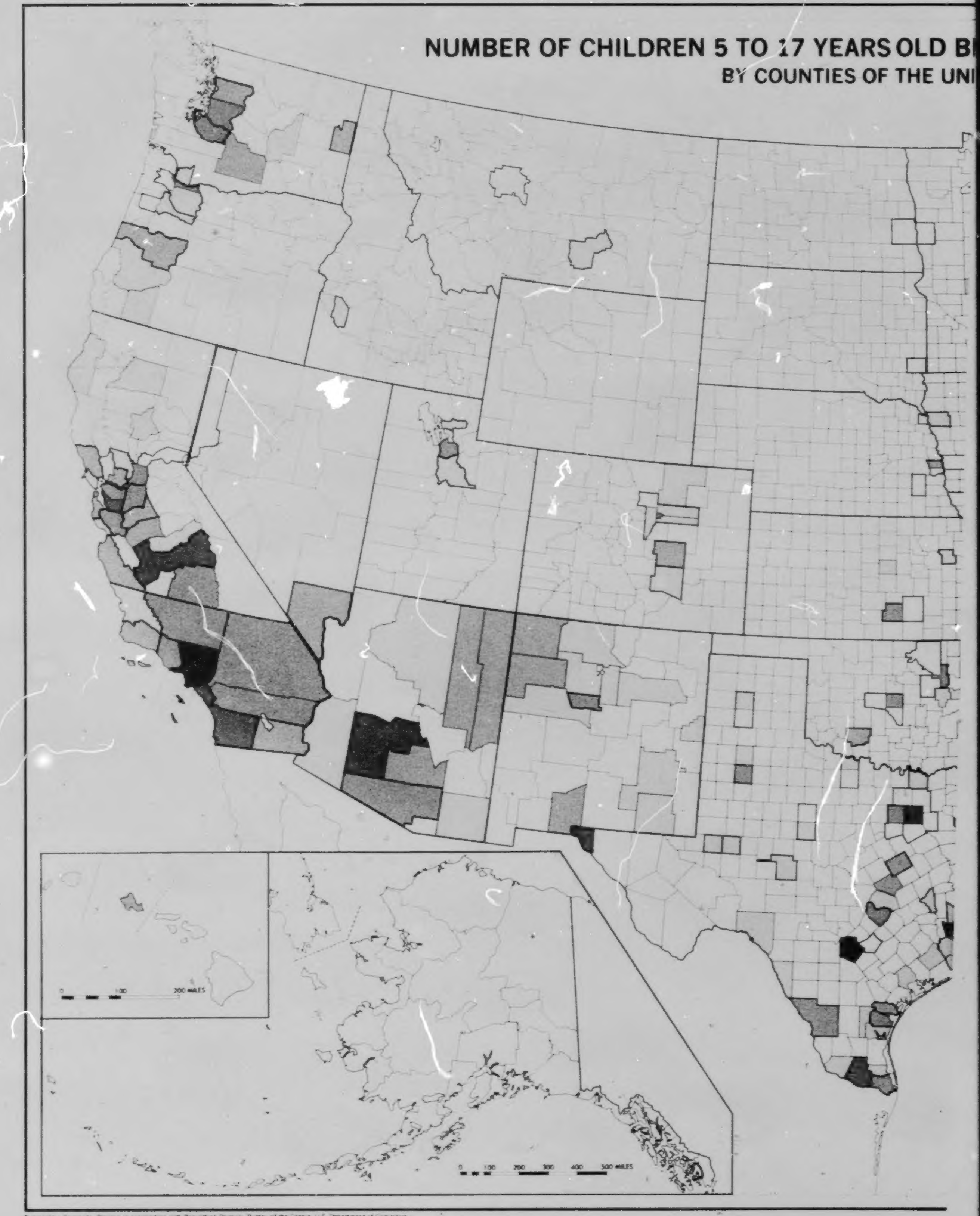
MAPS

1. Number of Children 5 to 17 Years Old Below the Poverty Level in 1969
   (By Counties of the United States)

2. Percent of Children 5 to 17 Years Old Below the Poverty Level in 1969
   (By Counties of the United States)

UNITED STATES
DEPARTMENT OF COMMERCE

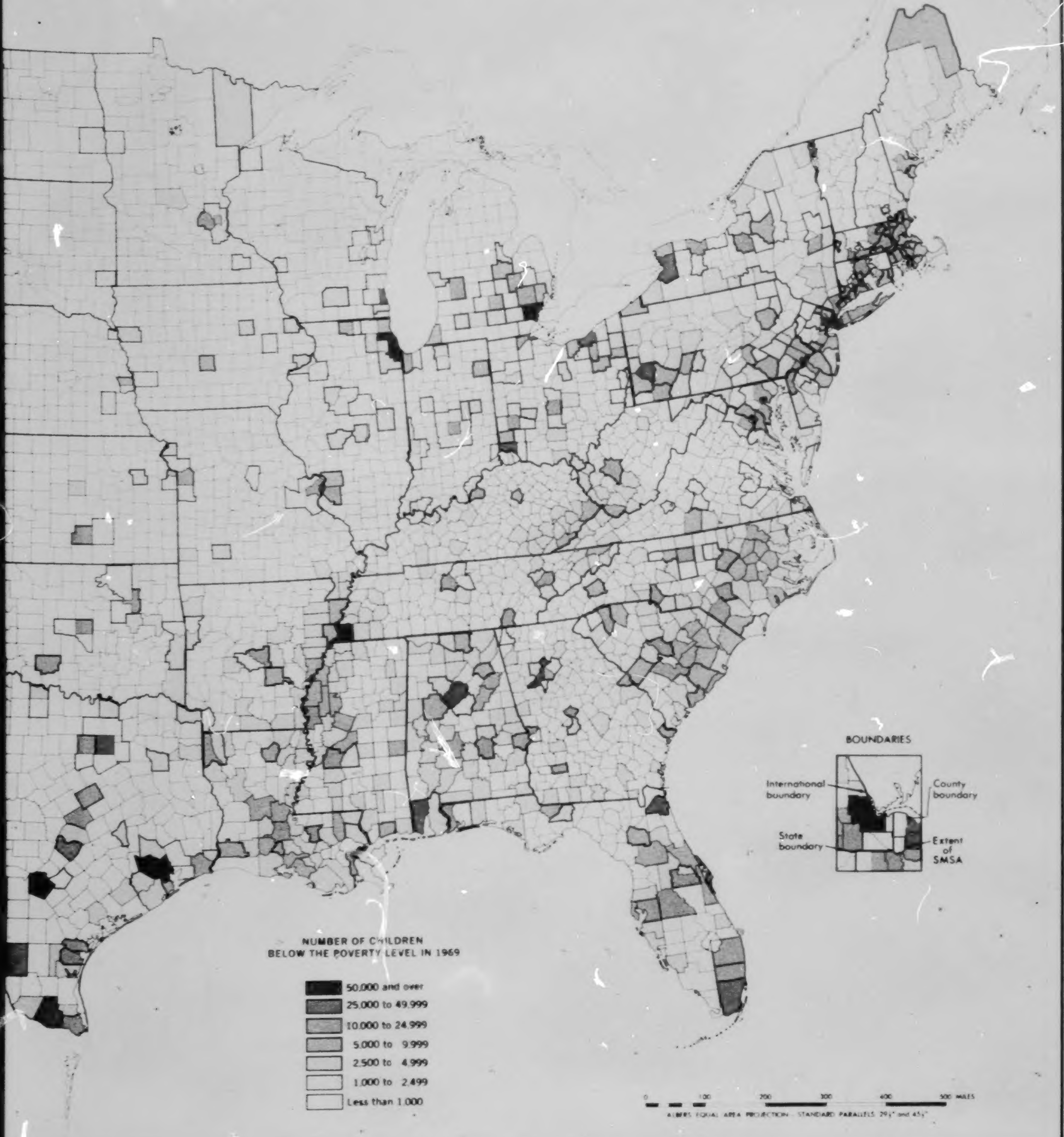
NUMBER OF CHILDREN 5 TO 17 YEARS OLD B
BY COUNTIES OF THE UN



Prepared by Geography Division in cooperation with Population Division, Bureau of the Census, U.S. Department of Commerce
Definitions of SMSA's from Office of Management and Budget, Executive Office of the President, February 1971
Population data from the 1970 Census of Population

BUREAU OF THE CENSUS
GEOGRAPHY DIVISION

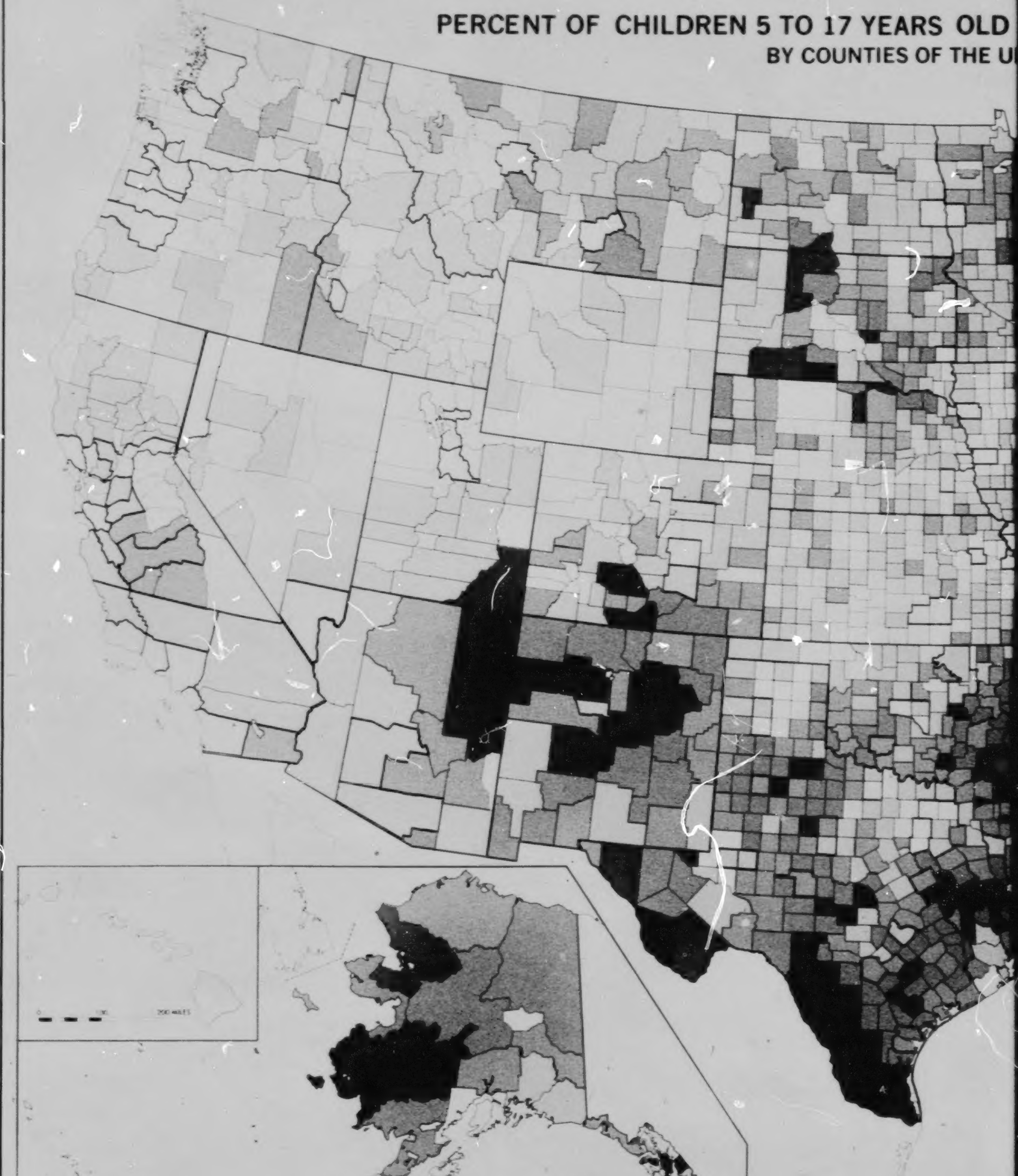
YEARS OLD BELOW THE POVERTY LEVEL IN 1969
TIES OF THE UNITED STATES


NUMBER OF CHILDREN
BELOW THE POVERTY LEVEL IN 1969
50,000 and over
25,000 to 49,999
10,000 to 24,999
5,000 to 9,999
2,500 to 4,999
1,000 to 2,499
Less than 1,000
BOUNDARIES
International boundary
County boundary
State boundary
Extent of SMSA
0
100
200
300
400
500 MILES
ALBERS EQUAL AREA PROJECTION – STANDARD PARALLELS 29½° and 45½°

NUMBER OF CHILDREN 5 TO 17 YEARS OLD BELOW THE POVERTY LEVEL IN 1969
BY COUNTIES OF THE UNITED STATES

PERCENT OF CHILDREN 5 TO 17 YEARS OLD

BY COUNTIES OF THE U



Prepared by Geography Division in cooperation with Population Division, Bureau of the Census, U.S. Department of Commerce
Definitions of SMSA's from Office of Management and Budget, Executive Office of the President, February 1971
Population data from the 1970 Census of Population

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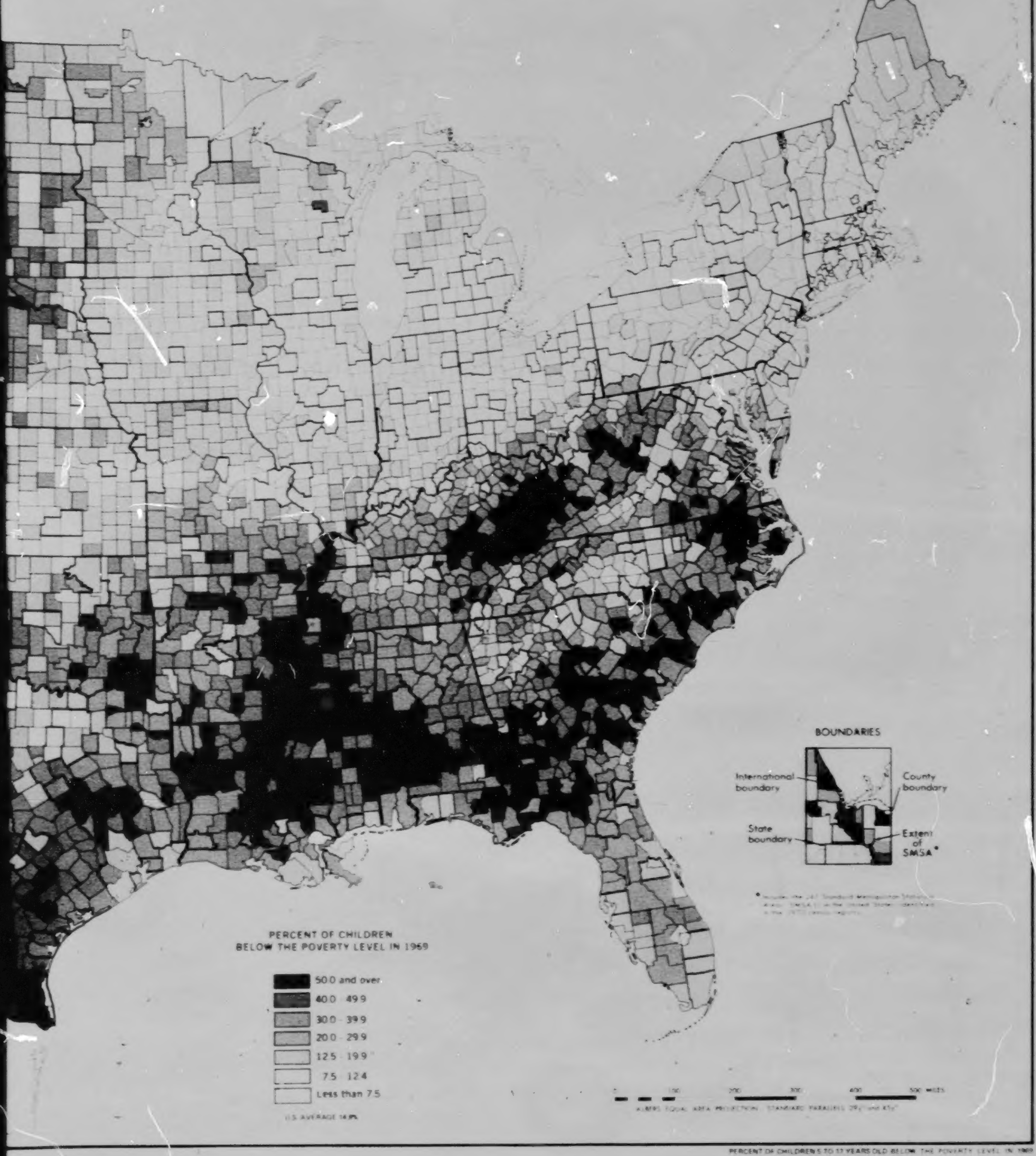
YEARS OLD BELOW THE POVERTY LEVEL IN 1969
TIES OF THE UNITED STATES


BOUNDARIES
International boundary
County boundary
State boundary
Extent of SMSA*
* Includes the 247 Standard Metropolitan Statistical Areas (SMSA's) in the United States identified in the 1970 census reports.
PERCENT OF CHILDREN BELOW THE POVERTY LEVEL IN 1969
50.0 and over
40.0 - 49.9
30.0 - 39.9
20.0 - 29.9
12.5 - 19.9
7.5 - 12.4
Less than 7.5
U.S. AVERAGE 14.9%
0
100
200
300
400
500 MILES
ALBERS EQUAL AREA PROJECTION. STANDARD PARALLELS 29½° and 45½°

PERCENT OF CHILDREN 5 TO 17 YEARS OLD BELOW THE POVERTY LEVEL IN 1969
BY COUNTIES OF THE UNITED STATES

EXECUTIVE SUMMARY

The 1974 Amendments to the Elementary and Secondary Education Act included a mandate to the Department of Health, Education, and Welfare to study ways of improving the accuracy and currency of the present measure of poverty used in the formula that allocates funds authorized by Title I of the Act. This is a summary of the report of that study.

Poor persons living in the United States in the 1970s are rich in contrast to their counterparts in other times and places. They are not poor if by poor is meant the subsistence levels of living common in some other countries. Nor are most poor like their counterparts in this country fifty or one hundred years ago. This country is concerned about poverty, its causes and correlates. It is willing to relieve the poverty of some of the poor and it wants to measure the effectiveness of its efforts to do so. None of this can be done without some idea of who is to be considered poor and who is not.

The report deals with measuring the current status of the poor rather than with the causes or solutions to poverty. A family is none the less poor for having arrived at that state of its own accord. Similarly, the fact that an individual could with modest and reasonable effort escape from poverty has nothing to do with whether he is currently poor.

The current measure of poverty used in the allocation formula was originally developed by Mollie Orshansky of the Social Security Administration in 1964 and was, with revisions, officially adopted in 1969 by the Office of Management and Budget as the Federal Government's official statistical measure of poverty. The measure is built around the Department of Agriculture's economy food plan of 1961 and the national average ratio of family food expenditures to total family after-tax income as measured in the 1955 Household Food Consumption Survey. It consists of 124 separate poverty cutoffs differentiating families by size, number of children, age and sex of head, and farm or nonfarm residence. The cutoffs are updated annually by changes in the Consumer Price Index. The weighted average poverty cutoff for a nonfarm family of four in 1974 was $5,038. According to the Census Bureau's report based on the March 1975 Current Population Survey, in 1974 there were approximately 24.3 million persons, or 12 percent of the population, poor by this definition.

The Orshansky poverty definition is widely used to measure the nation's progress in reducing the extent of poverty. It is also used as a statistical tool to identify the target populations of government programs that help the financially needy and to evaluate the effectiveness of such programs. In recent years it has been adapted for administrative purposes. The Title I program of the Elementary and Secondary Education Act provides one example of its administrative use. A different example is its use in the Head Start program where it plays a part in the determination of individual eligibility and the amount of government benefits provided to beneficiaries.

The Orshansky matrix of poverty thresholds is not the only poverty or low-income measure used for statistical and administrative purposes. Other measures include dollar cutoffs unadjusted for family size; various percentiles of the income distribution; and various percentages of median family income. These measures have advantages and disadvantages which vary according to the specific statistical, analytical, or administrative purposes intended. Each has subjective elements and limitations due to unresolved conceptual problems or scarcity of data.

The study examines (1) regional, climatic, metropolitan, urban, suburban, and rural differences in the poverty measure, (2) differences due to family size and head of household, and (3) the availability of state and other subnational data more current than the decennial Census, including cost of living, cost of housing, labor market and job availability, prevailing wage rates, unemployment rates, income distribution, and the eligibility criteria for aid to families with dependent children (AFDC) under state plans approved for Title IV of the Social Security Act.

The report reviews various topics; major discussion areas are:

1. Measures of poverty used for national policy purposes require fundamental social, political, and ethical judgments which should reflect the following considerations: varying beliefs about the proper norms or standards of need which should be adopted; a well conceived purpose and reasoned use of the measure or measures; the implicit government policy to redistribute income to or substantially assist those below the poverty line; and the necessity for periodically reviewing any poverty measure in light of changed perceptions of need, new data, resource limitations, changes in the demographic composition, and social factors.

2. The official measure of poverty has a number of limitations, some of which stem from the fact that there are no commonly accepted standards of need, other than for food; even the Department of Agriculture's measure of this standard is approximate. A multiplier which reflects the average ratio of income to food consumption is used as only a rough measure of nonfood requirements. In addition it, along with other measures discussed in this study, does not account for geographic differences in the cost of living or relative prices. Nor does it change over time with changes in the standard of living, although it is adjusted for changing prices to the extent they are captured by the Consumer Price Index.

3. Various proposals have been made to change the official poverty measure. The most commonly discussed include: revising it by using a more current USDA food plan and ratio of food expenditures to income from the 1965-66 Household Food Consumption Survey; simplifying it by removing the distinctions for farm residence, sex of head, or presence of children; making year-to-year changes through a price index specially weighted for poor persons;

adjusting the definition of income for assets, taxes, and home-produced goods and services; and measuring the effect of the subsidy programs which are now more available to the poor than they were when the measure was derived.

4. There may be cost-of-living differences between regions, and among urban, suburban, and rural areas, but the extent and nature of these differences is difficult to identify accurately. Existing sources of data which are both accurate at the state and local level and available on a timely basis cannot provide a reliable proxy measure of poverty. Because cost-of-living differences across areas are not satisfactorily measured by existing data and because there is no agreement on the methodology for making such an adjustment, no geographic adjustment in the poverty threshold is made in the report. Nevertheless, even in the absence of demonstrated cost-of-living or price differences, some believe that national programs could contain provisions to overcome problems which could arise from the effects of local labor and housing markets, local extent of poverty, or other special circumstances.

5. The development of a poverty definition based on a fully specified market basket of goods and services could provide a basis for varying the thresholds to account for differences in need due to variation in family size or composition. However, the lack of commonly accepted standards of need makes it difficult to construct a suitable poverty level market basket. Equivalence scales used to adjust the current poverty thresholds for family size and composition are based primarily on nutritional requirements and are not fully satisfactory. Alternative equivalence scales are examined in the report, but there is disagreement about their validity and in some cases they are quite arbitrary in their construction. Similarly, there are no generally accepted techniques for adjusting poverty cutoffs for other demographic characteristics such as health status or occupation. Unaddressed is the question of standards of poverty for the working poor compared with those dependent largely on public programs for support.

Several findings related to changing the definition of poverty are:

1. Commonly proposed changes in the definition of poverty would raise the poverty cutoffs and increase the number of persons who would be counted as poor. However, there have also been a number of criticisms of the way in which the poor are counted, which, if valid, suggest that some persons are counted as poor who should not be. Commonly proposed alterations vary from a revision of the current definition on the basis of more recent family consumption patterns to

such entirely different approaches as specifying poverty in terms of some percentage of median income. Changes which lower the poverty count, if the present poverty measure were not changed, include counting non-cash subsidies like food stamps as income and imputing income value to wealth when it does not generate interest, dividends, or rental income.

2. Increasing the poverty income cutoffs results not only in more persons and families being counted as "poor," but also in a significantly different composition of the poor population. Increasing the poverty line results in a poverty population with proportionately more whites than at present, more working poor, an increased proportion of families with a male rather than a female head, slightly higher concentrations of the elderly, and slightly lower concentrations of children. It also causes a relative shift in the proportionate share of the poor population from the Southern to other states and from less populated to more populated states.

3. Since no accepted standards exist for nonfood items (housing, clothing, transportation, etc.), the current poverty threshold is derived by assuming that the appropriate ratio of expenditures on nonfood items to expenditures on food would be that observed on the average in the United States. Based on more recent household food consumption data, the average proportion of income devoted to nonfood items and the corresponding multiplier to be applied to food costs are higher than in the current poverty measure. Arguments have been made both for increasing and decreasing the multiplier. These are related to: the assumption that food expenditures must not exceed the measured national average proportion of total income spent on food; differences in the statistical bases for calculating the multiplier; and the income definition to be used.

4. Under the official poverty measurement system (when backdated by the Consumer Price Index), the number of poor families was reduced from 18.5 percent in 1959 to 9.2 percent during 1974. Revising the official poverty line on the basis of current nutrition standards, food plans, food prices, and a higher multiplier reflecting more recent overall consumption data would raise the poverty line in real terms and lessen the amount of progress shown in reducing the extent of poverty. A poverty line based on 50 percent of national median family income would consistently show about 19 percent of all families as poor over the past fifteen years, although at ever higher real income levels.

5. In-kind benefits from government and private sources have grown sharply during the past decade. Empirical evidence for 1974 and several earlier years indicates that, if food stamps were included

as income and if the poverty thresholds were not changed, about 5 to 15 percent of the poor (depending on the method of valuation used) would no longer be counted as poor. The number of poor children would be reduced more significantly than other groups of poor persons. Inclusion of the value of other in-kind subsidies such as housing and health insurance would also reduce the number of poor counted by the present measure if the poverty threshold were not changed. However, if the logic of the existing measure is maintained, the ratio of after-tax income to food expenditures which is used in computing the poverty thresholds might be altered. Although it is difficult to agree on what value of in-kind benefits to include as income, failure to do so excludes some of the fastest growing sources of income in the economy.

6. Addition of unrealized or imputed income from assets (or even addition of stock of assets) to current income will also reduce the count of the poor if the poverty thresholds are not changed. The most dramatic reduction will occur for the self-employed, the aged, whites, and other groups in which the average net worth is higher than it is for the population as a whole. However, many of the poor have no sizable assets. Furthermore, if the poverty definition were revised maintaining its current logic, whether the number of poor would increase or decrease would depend on the distribution of such imputed income.

Findings related to programs are:

7. Except for a few programs, like child nutrition and food stamps, raising the poverty line (or lowering it) need not in itself increase (or decrease) the Federal budget, since in most programs a fixed amount of Federal funds is distributed. Federal revenues are linked to the poverty line to some extent through the minimum standard deduction for income taxes. The primary administrative effect of changing the poverty line (if administrative guidelines were to be similarly changed) is not necessarily a question of how much Federal money will be appropriated for the poor as of which low-income persons or areas will receive the appropriated funds.

8. With respect to Title I of the Elementary and Secondary Education Act, other elements of the distribution formula, such as the individual states' per-pupil expenditure rates, the size of their AFDC populations, the "hold harmless" provision, and the failure to update the count of children in poverty between the decennial Censuses, also have a significant effect on the proportionate share of funds which each state receives. If the funds were distributed solely on the basis of the number of poor children, the distributional effects would be much sharper than those produced by any reasonable change in the poverty thresholds using the current formula of allocation of Title I funds.

This report does not recommend any particular changes in poverty measurement or concept. It shows that there are many alternatives possible, each with its own advantages and disadvantages. Unfortunately, many of the more conceptually desirable changes are among the most difficult to implement. There are options that would increase the poverty count; there are equally valid changes that would reduce it. It can be concluded that any poverty definition may be subject to valid criticism, and that any definition is inherently value laden. Nevertheless, there is an advantage in the continued publication of an official statistical series of a poverty measure as an index of national achievement in reducing the extent of poverty.

INTRODUCTION

Poor persons living in the United States in the 1970s are rich in contrast to their counterparts in other times and places. They are not poor if by poor is meant the subsistence levels of living common in some other countries. Nor are most poor like their counterparts in this country fifty or one hundred years ago. This being so, why worry about poverty and its measure? The simple answer is that this country is concerned about poverty, its causes and correlates. It is willing to relieve the poverty of some of the poor and it wants to measure the effectiveness of its efforts to do so. None of this can be done without some idea of who is to be considered poor and who is not.

It might appear a simple matter to define and measure poverty. After all, it is easy to describe a hypothetical situation with terms so harsh and stringent that most persons will agree they denote poverty. But agreement that all persons at and below some level are poor does not constitute agreement that persons above it are not poor. Poverty is not an "either-or" state or condition; it is also a matter of degree.

Human beings vary in physical and mental ability. Some are favored with better physical or mental health than others. Their tastes differ and some suffer more from chance or bad luck than others. Moreover, all relationships involving human beings are continuous and have no sharp, obvious dividing lines. Thus, all poverty thresholds are necessarily subjective no matter how objective the empirical data used to derive them are. A point dividing a continuum is inherently subjective since one can always argue that the point ought to be a little further to the right or to the left.

Policy issues and causality often get mixed up with the definition of poverty. Many people believe that poor people are people who deserve something, sympathy only perhaps, but possibly some kind of assistance. Thus, when it is said that persons of a given type are not poor, what may be meant is that they do not deserve help or sympathy. And, when it is said that somebody is not "that poor," what may be meant is that that someone does not deserve "that" much help. The feeling that poor people necessarily deserve help inevitably leads to definitions of poverty which reflect programmatic and policy issues. The definition of poverty is easily confounded by instilling into it a concern about the incentive effects of some program presumed to relieve poverty.

Whether and which of the poor deserve something from the rest is essentially a moral or ethical question. How much they deserve is partly subjective and partly ethical. How and whether they get it involves practical, economic, political and a host of other issues. Who is poor and who is not are completely subjective questions. Nonetheless, the concept of poverty can be, is, and should be defined without reference to cause, responsibility, or potential anti-poverty programs. It is precisely because ethical and subjective considerations inevitably enter into discussions of poverty that this is important. Such considerations make the discussion more complex and the issues more difficult to resolve.

The dictionary assigns to the word poverty a limited if imprecise meaning: lack of money or personal possessions. However, even a cursory review of the literature on poverty reveals that for many people the word has connotations broader or more narrow than the dictionary definition. For example, the dictionary does not limit poverty to a condition arrived at or remained in involuntarily. A family is none the less poor for having arrived at that state of its own accord. Similarly, the fact that an individual could with modest and reasonable effort escape from poverty has nothing to do with whether he is currently poor.

If poverty is the lack of money or personal possessions, then poverty must be measured with a scale of money and personal possessions. The scale itself does not define poverty since only at the very top can it be said that there is no poverty; every place else there is poverty relative to some other place except for the very bottom where there is complete poverty. To say that someone is poor merely because he occupies a place lower on the scale than someone else (regardless of the complexities required to make such a statement) is not a sufficient definition. To say that someone is poor, then, must be to say that he lacks the money or possessions necessary to obtain some state or condition. A poverty threshold is the point on the scale of poverty below which people are deemed incapable of achieving this defined state; it has no intrinsic meaning apart from the state or condition it is meant to delimit.

Most people have an intuitive notion that there is a subgroup of the population that is poor; the term "the poor" can be used repeatedly without definition. But the criteria by which people distinguish the poor from the rest are almost inevitably circular in reasoning: the poor are people who behave like poor people. This circular reasoning is hard to avoid. In general we all take "the poor" to be persons on the lower end of the measure of poverty. But how do we decide how far down? Where is the poverty threshold? What is the state of being poor?

The further down on the scale of poverty, that is, the closer one approaches mere physical subsistence, or the more limited the degree of consumer choice assumed, the more likely it is that there will be agreement that people there and below are "poor." This is so because there are several, perhaps many, possible senses of the word poor and persons on the lower end of the measure are more likely to fit one of these senses than persons further up. Because of this, it is tempting to think that there is a consensus poverty threshold, a point on the scale of poverty below which people would be considered poor by almost everyone. Nonetheless, it is unlikely that a measure of poverty can be developed which will serve equally well for all purposes. Poverty can be defined in the abstract but whether someone is to be considered poor ultimately depends on who is asking the question and why he wants to know. Moreover, some measures suggest a requirement or a need that lasts just for a brief time but others relate to a phase or time of life and others could apply them over an entire lifetime. Persons turned away from hospital emergency clinics because they had neither cash nor evidence of insurance know one meaning of poverty. People who never have quite enough to make ends meet know another.

Experts discussing poverty have distinguished between absolute and relative thresholds. An absolute threshold is a fixed bundle of goods and services that does not vary in mix, quantity or quality regardless of when or where it applied. Relative poverty changes directly with prevailing income. One reason for the focus on absolute versus relative poverty thresholds is to show that the level of living associated with being poor varies over time and from place to place.

People have different living arrangements, they face different circumstances, live in different places and have different kinds of preferences and possessions. These differences create substantial problems in determining whether two persons are equally poor or in measuring the difference in their poverty. In some cases, they may involve matters of taste which means that precise measurement is impossible. Such differences affect both the determination of where on the poverty scale a person belongs and the particular poverty threshold to apply to him.

The problems of measuring poverty are the subject of this report. Chapter I, The Federal Poverty Definition, provides the background for the study. It briefly discusses the purposes of a Federal poverty measurement system, gives a brief history of the current official poverty line, describes its construction in detail, identifies available statistical series on the number of poor persons and their limitations, and describes the various current administrative and legislative usages of poverty terminology. As a whole it introduces the key empirical issues connected with the current poverty measurement system to which this report is addressed.

Chapter II, Concepts of Poverty Measurement, describes the concepts implicit in a poverty definition. It explores some alternative conceptual definitions of poverty as well as some theoretical difficulties with defining standards of need, with constructing equivalence scales for family size and composition across geographic areas and over time, with measuring total resources availability, and with employing other normative measures.

Chapter III, Data Availability and Limitations, describes both the availability and limitations of existing data for making more current and accurate determination of poverty measures and estimating numbers of the poor once defined. The focus is on data sources relevant to updating and modifying the current Orshansky measure, although data sources that could permit developing other kinds of measures are also reviewed.

Chapter IV, Constructing Poverty Definitions, explains the kinds of poverty measures which can presently be constructed using available data and known conceptual frameworks. It also displays the available evidence for some concepts even when the data or theoretical constructs are not adequate for developing an alternative measure now.

Chapter V, Alternative Poverty Counts Based on Available Data, describes alternative measures which are possible using existing data, indicating what the number and demographic characteristics of those counted as poor would be under each. All alternative definitions are based on straightforward simplifications or adaptations of the official Federal statistical definition or on readily available income data. The alternatives have been chosen to illustrate common usages or concepts. Some of them are not recommended for adoption within Federal programs.

Chapter VI, Analytic and Statistical Agenda, outlines the kinds and scope of research and survey activities which could lead to improved methods of measuring poverty. Time, cost, and utility are discussed in relation to particular research and statistical programs. The interrelationship among major surveys, and necessary planning around it, is also covered.

Chapter VII, Program Impact, describes the impact of the alternative poverty indexes (developed in Chapter V) on Federal poverty-related programs, particularly on the allocation of funds under Title I of the Elementary and Secondary Education Act.

I. THE FEDERAL POVERTY DEFINITION – HISTORY AND APPLICATIONS

This study deals with the Federal government's poverty measure. As required by Public Law 93-380, section 823, the study is aimed specifically at the measure of poverty used in the program of financial assistance authorized by Title I of the Elementary and Secondary Education Act of 1965. This measure is the Federal government's official statistical poverty index, and any recommendations concerning the index will affect all other programs which use it. Therefore, before examining its applications to the Title I education program, it is instructive to look at the concepts and background underlying this measurement system.

This chapter describes the fundamental features of the Federal poverty line. First, it reviews the main historical events leading to adoption, by the Bureau of the Budget, of the Orshansky poverty index as the official Federal statistical poverty definition. Second, it describes the economic concepts underlying the index and the data supporting its construction. Third, it summarizes the major statistical series published by the Census Bureau that are based on the poverty line. The final section summarizes the most common administrative and legislative usages of the Orshansky poverty measure (as well as of other measures that define low income or poverty).

As a whole, this chapter identifies the major issues that need to be resolved in meeting the requirements of section 823. The remainder of the report focuses on the resolution of these issues.

History

Concern with defining which persons and groups are poor goes back as far as the mid-nineteenth century. Congress has, from time to time, commissioned reports on the number of low-income families, their characteristics and their problems. 1/ Various Federal agencies have established data-gathering activities with a view toward setting standards of need in connection with specific programs. Some studies analyzed patterns of expenditure, but there was no official statistical poverty measure until the mid-1960s. The "War on Poverty" was announced January 8, 1964, in the President's Annual Message to the Congress on the state of the Union. In order to indicate the number and types of families that might be classified as "poor" under the various new anti-poverty programs, the Council of Economic Advisors (CEA), in its Annual Report 1964 issued in January of that year, designated as poor any family of two or more persons with an annual income of less than $3,000 or any person living alone (or with nonrelatives only) on less than $1,500. In assigning these as the critical thresholds, the Council cited a Social Security Administration (SSA) study appearing in the July 1963 Social Security Bulletin which estimated $3,165 as the minimum income needed (in 1961) for a nonfarm family of two adults and two children. That study, "Children of the Poor" by Mollie Orshansky, an economist with the Social Security Administration, developed income criteria of need by family size, but only for families with children.

In January 1965, the Social Security Bulletin contained another article by Mollie Orshansky entitled, "Counting the Poor: Another Look at the Poverty Profile," which updated and extended the criteria to all types of households. She used, as before, a concept of poverty based on budgets which can sustain an adequate nutritional level. Instead of a single income cutoff like that cited by the Council, or a measure which counts a constant proportion of the population, she used a sliding scale of income requirements for different family sizes and compositions. As an additional refinement, a lower income level was specified as the threshold for farm families.

Using a special tabulation of 1963 incomes from the March 1964 Current Population Survey, Orshansky showed that, although the total number of poor persons was nearly the same as that obtained by using the CEA's single-dollar income cutoffs, the characteristics of the two populations differed greatly. Small families with requirements of less than $3,000 were no longer counted as poor. Larger families with many children and with requirements exceeding $3,000 were included. The number of children counted as poor increased substantially, while the number of childless couples, young and old, decreased.

The Orshansky statistical definition appeared at a time when the need for a poverty measure was great: the Economic Opportunity Act of 1964 had recently been enacted. The Research Division of the Office of Economic Opportunity (OEO) adopted the Orshansky poverty measure not only as a working tool for budget and planning purposes but also as an administrative guideline for program purposes. Political implications result from this. For example, the statistical differential for farm income could affect eligibility of farm communities and farm families for Federal financial assistance (although there is no evidence of the extent of the impact).

The Social Security Administration continued to update the poverty thresholds annually for changes in food prices (as reflected in USDA estimates of economy food plan costs) and to apply each year's new thresholds to the Census Bureau income samples. At the request of the Council of Economic Advisors for trend data on poverty for its 1966 report, poverty counts were provided for all years back to 1959, the earliest date for which relevant Census Bureau data tapes were available.

By 1968, there was concern about updating the poverty concept. The poverty cutoffs had been updated with the increasing price of the food budget, but the cost of other consumer items as measured by the Consumer Price Index did not always change at the same rate. The 1960-61 BLS Consumer Expenditure Survey, published in 1965, suggested that a smaller proportion of total income was spent on food than was reflected in the 1955 Survey of Household Food Consumption, which had been used for the original Orshansky calculations, although methodological differences in survey procedures blurred the difference. (Orshansky had noted the differences when she developed the poverty matrix.) In addition, the Department of Agriculture was pressing for lowering the differential between farm and nonfarm poverty lines.

The poverty measures, and the poverty population they delineated, remained quasi-official numbers until August 1969, when the Budget Bureau designated them as the official statistical series to be published regularly by the Census Bureau. Agreement was reached by a Federal Interagency Committee headed by the Bureau of the Budget to continue the SSA index (Orshansky matrix) in order to have a stable measure for evaluation purposes, but to incorporate two modifications. One was to move the thresholds for 1963 incomes forward by the annual average changes for all items in the Consumer Price Index (for urban middle-income families), rather than by the December-to-December changes in the price of the economy market basket of foods. The other was to set the poverty thresholds for farm residents at 85 percent of the nonfarm thresholds, instead of the original 70 percent.

In 1971, a new Technical Committee on Poverty Statistics met to discuss various proposals for changes in terminology and definitions of the poverty line and related statistics. The committee produced a report, Administrative and Legislative Use of the Terms "Poverty" and "Low Income", and agreed to a new definition of poverty areas. Because a complete technical review required considerable expenditure, it was not undertaken by the committee at that time.

A more complete review was undertaken in 1973. At that time, three subcommittees were formed to study the poverty threshold, the measurement of non-cash income, and the improvement of the measurement of cash income. The consolidated report by the subcommittee chairmen recommended one immediate change in the threshold -- that the differential for farm and nonfarm families be eliminated. The recommendation was not adopted by the Office of Management and Budget (OMB). In addition, the consolidated report recommended that no other changes be made in the threshold until a new food plan incorporating revised nutritional standards became available. Substantial improvements in reporting cash income and non-cash income could not be made at that time. The subcommittee recommended a substantial research program to accomplish a major revision in the poverty thresholds after the proposed 1975-1976 Food Consumption Survey.

An edited collection of early publications dealing with the Orshansky poverty index is provided in Technical Paper I to this report. It includes a summary of the research recommendations of the technical committee just cited and a detailed account of the statistical construction of the poverty index, which is described next.

Statistical Construction

The SSA (Orshansky) index provides a range of income cutoffs adjusted by such factors as family size, age and sex of family head, number of children under 18 years old, and farm-nonfarm residence. Families and unrelated individuals are then classified as above or below the poverty level and also by the amount of their income shortfall. The index is an attempt to specify in dollar terms a minimum level of income adequacy for families of different types in keeping with American consumption patterns.

Orshansky developed her index from an estimate of the outlay with which American households with low incomes might provide household members with diets meeting nutritional goals as established by the National Academy of Sciences-National Research Council in the Recommended Dietary Allowances (RDA). Specifically, Orshansky's thresholds were based on the cost for the Department of Agriculture's economy food plan, originally developed in 1961 as the least costly of the USDA's family food plans at four levels of cost -- economy, low-cost, moderate-cost, and liberal. 2/ The economy plan specified, for men, women, and children of different ages, quantities of 11 different food groups that together made up a nutritious diet. The plan reflected both the RDA and food use of low-income households surveyed in the USDA's 1955 Household Food Consumption Survey. Between 1961 and 1967, the cost of foods in the economy plan was estimated annually. In 1967 procedures for costing the food plans were revised to reflect food use from the USDA's 1965-66 survey. Because of demographic problems with the 1965-66 data for very low-income households, however, the cost of the economy plan was estimated at 80 percent of the low-cost plan between 1968 and July 1975, when the plan was replaced by the thrifty food plan (see Technical Paper XII). The USDA economy plan specified quantities of food for 20 age-sex categories, reflecting each category's nutritional and caloric requirements. Costs for any family could be figured by totaling costs for plans for the age and sex of family members and adjusting the total by economy-of-scale factors for families of different sizes.

Orshansky used the costs for the plan to estimate costs for 62 different family types, classified on the basis of sex and age of head, number of persons in the family, and number of related children under 18. The final step in producing the Orshansky dollar cutoffs was to add to the food costs an estimate of the additional income needed to purchase necessities other than food; this estimate was based on the inverse of the percent of income an average American family devoted to food expenditures as reported in the 1955 Household Food Consumption Survey.

The proportion of income expended for necessities -- for food, in particular -- is indicative of the relative well-being of both individuals and the society in which they live. The 1955 survey reported an average of one dollar for food outlay to three dollars of family income. Using this ratio, Orshansky set the poverty level for families of three or more persons at three times the cost of the economy food plan for that size and type of family. For smaller families and persons residing alone, slightly higher multiples were used to compensate for the relatively higher fixed expenses of these smaller households.

It should be noted that the income definition used in the Household Food Consumption Survey is income after taxes. The poverty cutoffs, however, are applied to before-tax income. Generally, the poor do not pay Federal income taxes. However, some poor families do pay state income taxes, and those who work usually pay a 5.85 percent Social Security tax on their earnings. These taxes are excluded in the Household Food Consumption Survey.

Finally, the SSA poverty cutoffs allowed for the fact that farm families customarily obtain housing and food as part of the farm business operation, rather than by direct expenditure. On the basis of data available at that time, a farm family was assumed to need only 70 percent as much cash to maintain a comparable level of living as a corresponding nonfarm family. Hence, proportionately lower poverty thresholds were set for farm families than for nonfarm families, resulting in 124 thresholds in all. The 1969 Federal Interagency Committee changed the farm-nonfarm differential to 85 percent. There was a lack of conclusive evidence on which to substantiate the earlier farm-nonfarm differential or to revise it. However, USDA studies of equivalent levels of living based on the 1961-62 Consumer Expenditure Survey and the increasing number of farm residents who derive much of their income from nonfarm work supported the Agriculture Department's contention that the 70 percent figure was unjustifiably low.

Table 1 shows the entire set of Orshansky poverty indexes for income in 1974. Because it is impractical to use the entire set of 124 poverty lines for anything other than Census surveys or computerized analytical studies, the Census Bureau publishes the indexes in a simplified form as weighted average cutoffs. The simplified version of Table 1 is displayed in Table 2. For many purposes it is inconvenient and unnecessary to consider 77 weighted average cutoffs, since it would be more convenient to refer to only one number for each family size. Frequently cited cutoffs are the weighted average threshold for a nonfarm family of four and for an elderly person living alone, which in 1974 were $5,038 and $2,364, respectively, as indicated in Table 2. For 1975 these cutoffs are estimated to be $5,500 and $2,580, respectively.

The SSA thresholds were originally developed in terms of 1963 incomes and prices. Subsequently adjusted only for price changes, they were extended forward without modification through 1967 and backward to 1959. These changes were originally based on changes in the December cost of the economy food plan market basket. During the late 1960s, the cost of the economy food plan did not increase as much as overall prices. Thus, price changes between 1959 and 1968 were not the same as changes in the poverty threshold. As a result of deliberations of the Federal Interagency Committee in 1969, annual adjustments in the low-income thresholds were thereafter based on average annual changes in the Consumer Price Index (CPI).

In recent years, changes in the CPI may not, however, have reflected all the changes in the living costs incurred by the poor. For example, the poor tend to spend a higher proportion of their income on food than the total population. Between 1972 and 1973, the cost of the food component of the CPI increased considerably more than the total CPI (14.5 percent compared to 6.2 percent). Figure 1 illustrates the annual changes between 1959 and 1975 in the cost of the economy food plan, compared to the changes in the CPI for all items and for only the food component.

Table 1. Poverty Cutoffs in 1974 by Sex of Head, Size of Family, and Number of Related Children Under 18 Years Old, by Farm-Nonfarm Residence

Size of Family Unit	Number of Related Children Under 18 Years Old						
	None	1	2	3	4	5	6
NONFARM							
Male Head							
1 Person (Unrelated Individual):							
Under 65 years	$2,658	--	--	--	--	--	--
65 Years and Over	2,387	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	3,324	$3,724	--	--	--	--	--
Head 65 Years and Over	2,985	3,724	--	--	--	--	--
3 Persons	3,870	3,996	$4,223	--	--	--	--
4 Persons	5,103	5,178	5,000	$5,252	--	--	--
5 Persons	6,158	6,232	6,032	5,881	$6,006	--	--
6 Persons	7,063	7,087	6,937	6,786	6,585	$6,686	--
7 or More Persons	8,896	8,972	8,796	8,645	8,445	8,142	$8,068
Female Head							
1 Person (Unrelated Individual):							
Under 65 Years	$2,458	--	--	--	--	--	--
65 Years and Over	2,357	--	--	--	--	--	--
2 Persons:							
Head under 65 Years	3,072	$3,353	--	--	--	--	--
Head 65 Years and Over	2,948	3,353	--	--	--	--	--
3 Persons	3,745	3,568	$3,946	--	--	--	--
4 Persons	4,900	5,075	5,053	$5,000	--	--	--
5 Persons	5,881	6,058	6,032	5,982	$5,781	--	--
6 Persons	6,862	6,987	6,937	6,886	6,660	$6,457	--
7 or More Persons	8,619	8,746	8,720	8,645	8,419	8,244	$7,841
FARM							
Male Head							
1 Person (Unrelated Individual):							
Under 65 Years	$2,258	--	--	--	--	--	--
65 Years and Over	2,030	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	2,825	$3,165	--	--	--	--	--
Head 65 Years and Over	2,537	3,165	--	--	--	--	--
3 Persons	3,291	3,397	$3,590	--	--	--	--
4 Persons	4,338	4,402	4,429	$4,465	--	--	--
5 Persons	5,235	5,298	5,127	4,998	$5,106	--	--
6 Persons	6,003	6,024	5,897	5,768	5,597	$5,683	--
7 or More Persons	7,562	7,627	7,477	7,179	6,179	6,921	$6,858
Female Head							
1 Person (Unrelated Individual):							
Under 65 Years	$2,059	--	--	--	--	--	--
65 Years and Over	2,002	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	2,611	$2,851	--	--	--	--	--
Head 65 Years and Over	2,506	2,851	--	--	--	--	--
3 Persons	3,183	3,033	$3,355	--	--	--	--
4 Persons	4,165	4,313	4,294	$4,249	--	--	--
5 Persons	4,998	5,149	5,127	5,085	$4,914	--	--
6 Persons	5,812	5,939	5,897	5,853	5,662	$5,489	--
7 or More Persons	7,325	7,435	7,412	7,348	7,156	7,007	$6,665

SOURCE: U.S. Bureau of the Census, "Characteristics of the Population Below the Poverty Level: 1974," Current Population Reports, Series P-60, No. 102, Table A-2.

Table 2. Weighted Average Poverty Cutoffs in 1974 by Size of Family and Sex of Head, by Farm-Nonfarm Residence

Size of Family Unit	Total	Nonfarm			Farm		
		Total	Male Head	Female Head	Total	Male Head	Female Head
1 Person (Unrelated Individual)	$2,487	$2,495	$2,610	$2,413	$2,092	$2,158	$2,029
14 to 64 Years	2,557	2,562	2,658	2,458	2,197	2,258	2,089
65 Years and Over	2,352	2,364	2,387	2,357	2,013	2,030	2,002
2 Persons	3,191	3,211	3,220	3,167	2,707	2,711	2,632
Head 14 to 64 Years	3,294	3,312	3,329	3,230	2,819	2,824	2,706
Head 65 Years and Over	2,958	2,982	2,984	2,966	2,535	2,535	2,533
3 Persons	3,910	3,936	3,957	3,822	3,331	3,345	3,133
4 Persons	5,008	5,038	5,040	5,014	4,302	4,303	4,262
5 Persons	5,912	5,950	5,957	5,882	5,057	5,057	5,072
6 Persons	6,651	6,699	6,706	6,642	5,700	5,700	5,702
7 or More Persons[a]	8,165	8,253	8,278	8,079	7,018	7,017	7,066

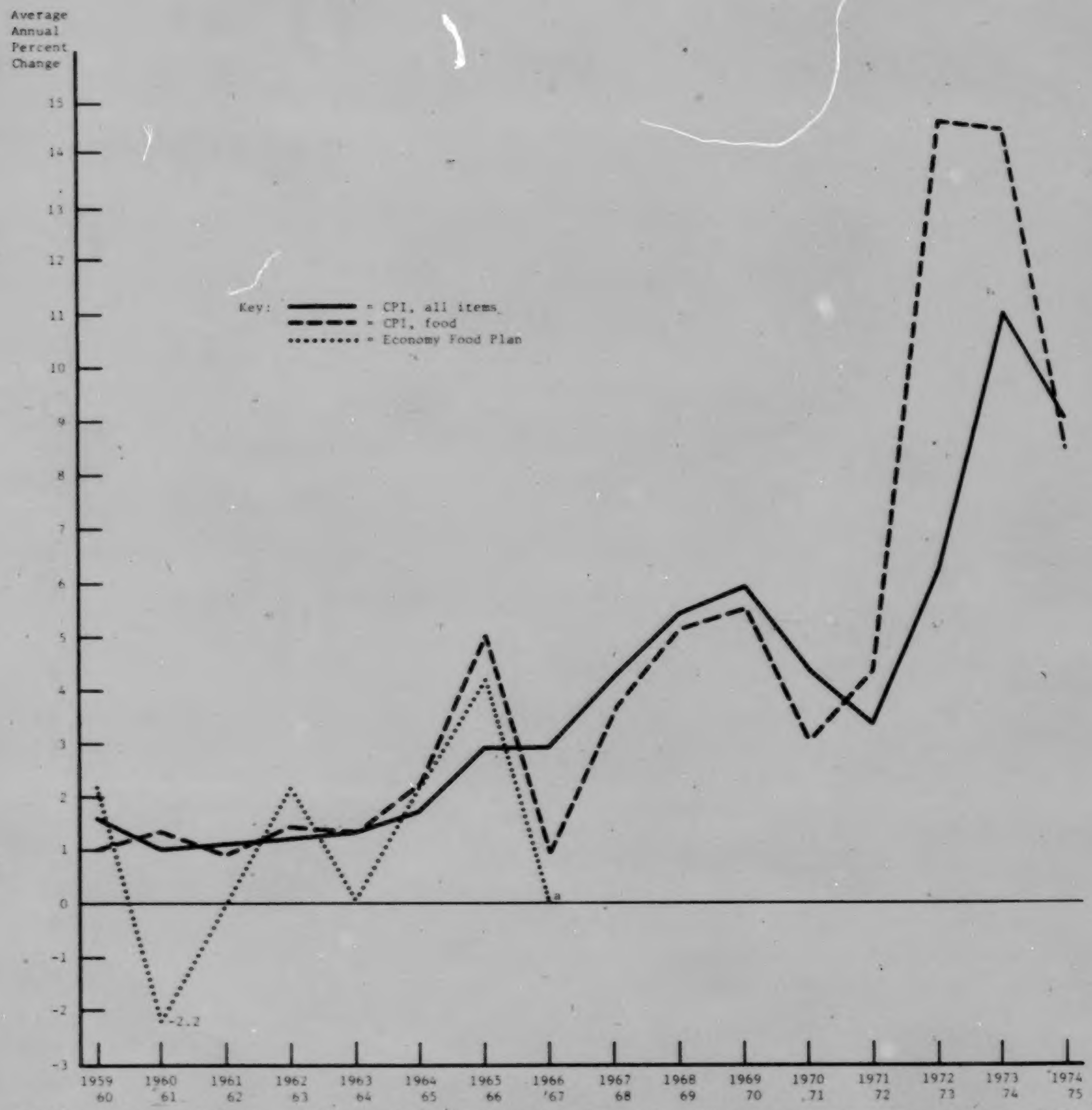
SOURCE: U.S. Bureau of the Census, "Characteristics of the Population Below the Poverty Level: 1974," Current Population Reports, Series P-60, No. 102, Table A-2.

[a] Represents an average for families with 7 or more persons.

Statistical Series on Poverty

Since 1968, the Census Bureau has regularly published information on the number and characteristics of poor persons and poor families, using the concept of poverty operationalized by Orshansky in the matrix of 124 poverty thresholds. The number of poor persons from 1966 to 1974 and the percent of the population in each of these years is shown in Figure 2.

The major data source providing annual poverty counts is the Current Population Survey conducted in March of each year by the Census Bureau. In addition, the Decennial Census provides detailed information on the low-income population at 10-year intervals. Both sources make available data on many characteristics of the poverty population, including age, race, sex, education, weeks worked, and family type; these are published in the Current Population Reports P-60 series 3/ and in Chapter D, "Detailed Characteristics," of Volume I of the 1970 Census of Population. Selected characteristics of persons and families below the poverty level in 1969 are presented in Chapter C for each of the states, counties, SMSAs, urbanized areas, and urban places having a population of 2,500 or more. 4/



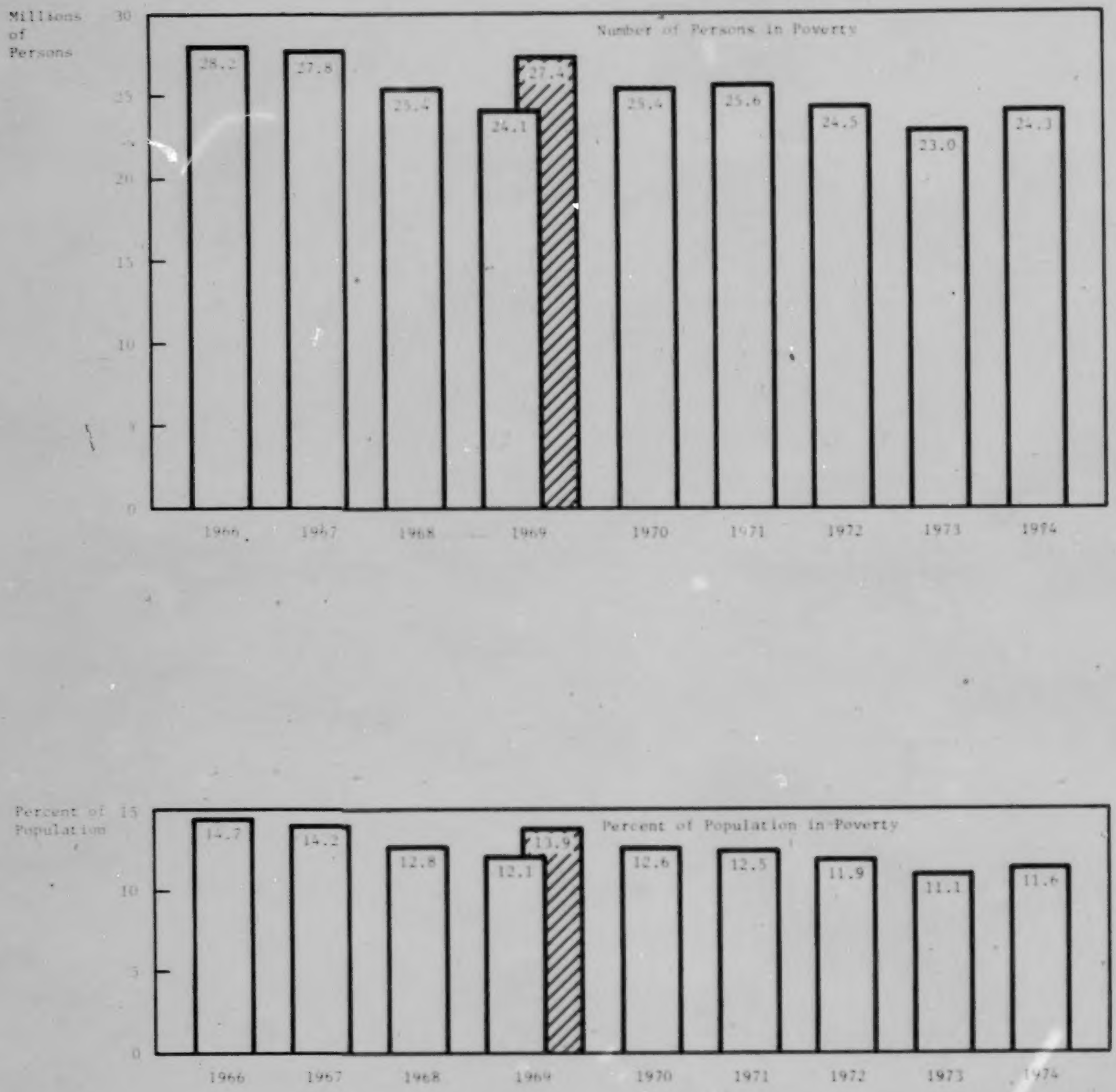
SOURCE: U.S. Bureau of the Census, "Characteristics of the Low-Income Population: 1973," Current Population Reports, Series P-60, No. 98 (January 1975), Table A-4.

Bureau of Labor Statistics, Monthly Labor Review (June 1974, June 1975). (Provided 1973-74 percent changes.)

Note: In 1969 the official poverty cutoff was updated by price changes in the total CPI rather than the economy food plan.

[a] The Department of Agriculture has continued to prepare and make available data on the economy food plan through July 1975. The composition in the plan changed in 1966 so that comparable data are not available after 1966-67.

Figure 1. Average Annual Percent Change in the Cost of the Economy Food Plan and in the Consumer Price Index (All Items and Food), 1959-1973



Source Legend: ☐ -- U.S. Bureau of the Census, "Characteristics of the Low-Income Population: 1973," Current Population Reports, Series P-60, No. 98 (January 1975).

▨ -- U.S. Bureau of the Census, 1970 Census of Population, Vol. I, Characteristics of the Population, Chap. D, "Detailed Characteristics."

Figure 2. Number of Persons in Poverty and Percent of Population in Poverty, 1966-1974

As Figure 2 shows, the 1970 Census and the 1970 Current Population Survey (CPS) yield different estimates of the poverty population for 1969; the number reported in the Census is 27.4 million poor persons, compared with 24.1 million in the CPS. The apparent inconsistency has two explanations. Although both surveys use a similar concept of income and the same definition of poverty, the income collected in the CPS by trained interviewers is more accurate than the less detailed income reported by self-enumeration in the 1970 Census. Furthermore, college students, who are generally enumerated at their family home in the CPS, are enumerated at their college residence in the Decennial Census, tending to increase the number of low-income persons in that data source. 5/ It is more important, however, to recognize the limitations shared by both the Census and the CPS as sources of data for measuring the low-income population. In both surveys there is an undercount of persons, and some sources of income are known to be substantially underreported. This underreporting is particularly true, among sources of income affecting the poor, the Social Security and welfare payments. The number of poor persons would be substantially reduced below both CPS and Census estimates if underreporting did not occur in these surveys. This is discussed further in Chapter III, Data Availability and Limitations.

The most important practical difference between the Current Population Survey and the Decennial Census is the fact that the CPS cannot yield valid estimates of the poverty population at the state level. The annual March CPS, while nationally representative, can provide poverty counts only for the ten Federal regions on the basis of its sample of about 47,000 households. The Decennial Census, on the other hand, does provide information on the poverty population for states and for Standard Metropolitan Statistical Areas (SMSAs) having a population of 250,000 or more. 4/

A more detailed discussion of these data bases and their limitations for measuring poverty is contained in Chapter III, Data Availability and Limitations, and in Technical Paper IX, Inventory of Federal Data Bases Related to the Measurement of Poverty.

Administrative Usage of Poverty Measures

Many Federal programs are designed to help the poor (needy, low-income, disadvantaged) and use a poverty measure or income eligibility standard for administrative purposes. Although the Orshansky measure, which was originally developed as a statistical measure, has been widely adopted, it is not the only administrative measure of poverty used. Moreover, the official measure is usually modified to some degree, and frequently it is used in conjunction with still other criteria. Often programs use different definitions of income, increasing diversity still further. Such variation in Federal administrative practice occurs because of the broad spectrum of objectives covered by these programs.

Federal programs for the poor differ in design. Some programs are devised to aid areas and some are devised to aid families or individuals directly. In the former case, the poverty measure is used in an allocative formula to distribute the appropriation, typically a fixed amount, among the subunits of the nation designated by the legislation. In the second type of program, a poverty cutoff may be used as an income eligibility criterion for individual applicants.

Title I of the Elementary and Secondary Education Act, as amended, is an example of a program using a poverty measure as part of an allocative formula. The appropriated funds are distributed partly on the basis of the number of poor school-age children in each county. Where county boundaries are not coterminous with school districts, county amounts are then suballocated to the school districts by state departments of education. Children living in school attendance areas which have an incidence of poverty as high as or higher than the district-wide average are eligible for Title I services. Children are selected for participation on the basis of educational deficiencies, regardless of family income.

The Community Services Administration (CSA), formerly the Office of Economic Opportunity, provides an example of administrative use of the Orshansky measure for determining income eligibility. Uniform income eligibility standards are issued for poverty-related programs administered by CSA. Based directly on the official Federal poverty measure, these guidelines eliminate many of the distinctions and smooth some of the remaining variations. The CSA poverty thresholds allow for variations by family size, with equal increments for additional family members. Cutoffs for farm families are 15 percent below those for nonfarm families. In addition, two major geographic variations are partly taken into account by raising these thresholds by 25 percent for Alaska and by 15 percent for Hawaii. The CSA thresholds are updated annually according to the change in the Consumer Price Index. Table 3 presents the 1974 CSA poverty cutoffs for the continental United States, along with the comparable weighted average cutoffs from the Orshansky system from which these were derived. For each of the weighted Orshansky averages in Table 3, the numbers in parentheses indicate the range of variation across all other thresholds for the same family size.

The basic dichotomy between allocative and eligibility uses is not necessarily exclusive, for a single legislative act may contain both an allocative formula for distributing fixed program funds and eligibility criteria for determining which individuals in each area are entitled to receive assistance. Furthermore, entirely different poverty measures may be used in the various stages of one program, as with the Comprehensive Employment and Training Act (CETA). The measure of poverty used for distributing CETA funds is a single-dollar threshold, with the allocation based partly on the number of families in an area with an income below that level. At the local level, however, individual eligibility is determined in part by an income criterion based on a modified Orshansky measure and in part on such other factors as unemployment or underemployment.

Table 3. 1974 Orshansky Poverty Thresholds and Community Services Administration Income Eligibility Guidelines

Family Size	Community Services Administration		Orshansky Poverty Measure	
	Nonfarm[a]	Farm[a]	Nonfarm	Farm
1 person	$2590	$2200	$2495(2358-2659)[b]	$2092(2004-2260)
2 persons	3410	2900	3211(2948-3724)	2707(2506-3165)
3 persons	4230	3600	3936(3568-4223)	3331(3033-3590)
4 persons	5050	4300	5038(4900-5252)	4302(4165-4435)
5 persons	5870	5000	5950(5781-6232)	5057(4914-5298)
6 persons	6690	5700	6699(6457-7087)	5700(5489-6024)

SOURCE: Federal Register, Vol. 40, No. 132 (July 9, 1975), p. 28794. U.S. Bureau of the Census, "Characteristics of the Population Below the Poverty Level: 1974," Current Population Reports, Series P-60, No. 102, Table A-2.

[a] All States except Alaska and Hawaii. The thresholds for Alaska are 25 percent higher, and those for Hawaii are 15 percent higher.

[b] Figures in parentheses indicate the range of variation across the thresholds in the measure.

In many cases the Orshansky thresholds are used but in a modified form. The most common variations of the Orshansky measure are scaling the thresholds by a multiplicative factor, as is done, for example, in child nutrition programs. Another common adaptation is to include status as a recipient of welfare, in conjunction with the thresholds, to identify target populations. This may be done to avoid penalizing those states whose higher welfare benefits may have brought many families out of poverty, or to insure that benefits which may lead to self-sufficiency are provided to welfare families. Thus, a person may be eligible for benefits in a program either by the fact that his family income falls below the poverty cut-off or because he is in a family receiving welfare payments. In addition, various characteristics of the recipient, such as employability, are sometimes used to determine categorical eligibility.

Measures of poverty or income eligibility and concepts of need other than the Orshansky measure are also used in Federal programs. A single-dollar threshold that is unchanged for family size is currently used as an eligibility criterion in the College Work-Study program authorized by the Higher Education Act of 1965. This type of measure is also used in the allocation formula of the Comprehensive Employment and Training Act and was used in the allocation of funds under Title I of the Elementary and Secondary Education Act until 1974.

Another measure of income eligibility is one based on some percentage of median income. Title XX of the Social Security Act (social services) adopted 80 to 115 percent of median family income in each state as its standard. Title II of the Housing and Community Development Act of 1974 uses 50 and 80 percent of median family income in the "area" as its eligibility criteria. The use of standards based on median income is a relatively new development in Federal programs, although there is precedence in social service programs.

Finally, administrative and legislative references abound in terms that target Federal programs to the "disadvantaged," "needy," "dependent," "economically disadvantaged," and "individuals whose income and resources are insufficient." In many such references, the terms are employed without definition. The various administrative and legislative uses of poverty terminology are described more completely in Technical Paper II.

There are several arguments in favor of using an official poverty measure. Determining public policy, setting program goals, and evaluating program success all benefit from the external referent provided by an official measure, even if the measure is altered to fit programs. It allows comparisons over time. Also, various Federally funded programs are required by law to identify their target populations in terms of low-income status or extent of poverty in terms of this official poverty matrix. There may be value, however, in updating or revising the present measure. Moreover, publication of more than one series of poverty statistics may be desirable. There are advantages, both statistical and administrative, to other concepts.

Quite obviously, it is easier to agree that some official measure of poverty is useful than it is to agree on its precise definition and applicability to specific uses. Conceptual, statistical, and administrative constraints interact in a very complicated way. In attempting to establish as sound a methodology as possible, one must accept at the outset that no poverty measure will be purely scientific, free of value judgments.

Even if the most fundamental principles of "well-being" and "poverty" were clearly articulated and universally agreed upon, some debate would continue about whether or not any one poverty measurement series could or should be used as an index of national achievement, as a source of statistical data for the design and evaluation of programs, and as an administrative parameter in Federal programs. The focus of this report is on definitions which can be used to help policy makers design and evaluate programs. However, the current administrative uses cannot help but affect the analyses in this report.

NOTES TO CHAPTER I

1. See, for example, Low-Income Families and Economic Stability, Staff of the Subcommittee on Low-Income Families, Joint Committee on the Economic Report (Washington, D. C.: Government Printing Office, 1949).

2. See E. Cofer, E. Grossman, and F. Clark, Family Food Plans and Food Costs, U.S. Department of Agriculture, HERR 20 (November 1962).

3. See, in particular, Series P-60, Nos. 54, 68, 76, 81, 86, 91, 95, 98, and 102.

4. Further information on data availability from the 1970 Census is contained in Low-Income Data from the 1970 Census, Data Access Description, No. 29, Collection, Evaluation, and Processing Series CEP-7 (May 1972).

5. Another difference between the two surveys does not affect their differential poverty counts. The CPS excludes the institutional population and all members of the Armed Forces living in barracks. Although the Census includes these groups, the institutional populations are not included in the poverty universe because of the difficulty of classification by income.

II. CONCEPTS OF POVERTY MEASUREMENT

The term poverty connotes a large and complex set of economic, social and psychological conditions.1/ Most people would probably agree that anyone who does not have enough resources to cover their perception of his needs is "poor" and that needs could include food stuffs if a person were hungry or medical services if his health were poor. Beyond this basic notion of poverty people have different individual views and philosophies.

Poverty definitions serve two quite different functions for public policy purposes: first, they allow program administrators to identify individuals or families that require and are eligible for help. Second, they are essential to policy makers in the design and evaluation of programs to help the poor. Often the same definition can serve both purposes. But, there are situations in which it is more appropriate to separate the two. For example, in determining whether a family is eligible for medical assistance, a definition might include some measure of the family's "medical needs" compared with its available resources. On the other hand, for designing programs to meet medical needs, it may not be necessary to identify medical needs by individual family; aggregate statistics may be all that is necessary.

The impetus for undertaking a study on the measurement of poverty came from Congressional concern over the allocation of funds distributed to school districts under provisions of Title I of the Elementary and Secondary Education Act. The Title I formula reflects the Congressional view that poverty and education are related and allocates proportionately more funds to school districts with higher incidences of poverty. Resources are given to those schools whose attendance areas have concentrations of children from low-income families so that local school programs can be developed for those children who have need of special educational assistance.

A "thorough evaluation and study of compensatory education programs" is being undertaken by the National Institute of Education (NIE) under the instructions of section 821 of the Education Amendments of 1974 (P.L. 93-380). The study is to be completed by September 30, 1977 -- in time to provide Congress with information during its deliberations on the reauthorization of Title I. The NIE study will be a comprehensive examination of educational disadvantage. In contrast, the present study is on poverty measures, one of which is used in the Title I allocation formula.

Social and Cultural Conceptions of Poverty

Some social scientists would like to use general "social indicators" as measures of poverty. Attention has been focused on ways, other than lack of money, in which the poor differ from the rest of society -- on how the poor compare with the rest of society in terms of "well-being," "quality of life," and "social health." Some of the indicators which have been examined are adult and infant mortality, morbidity, nutrition and malnutrition, literacy and educational levels, housing, and neighborhood conditions (such as overcrowding and criminal victimization).

It is not so much a non-economic measure of poverty which is desired, but a conception of poverty that goes beyond simple economic notions. The causes, correlates, and solutions to the problems of poverty cannot be limited to economic ones. However, economic attributes never correlate perfectly and sometimes correlate quite poorly with the psychological and cultural behavioral patterns often thought of as characteristic of the poor. Therefore, social indicators which are meant to be a measure of the "quality of life" of the poor cannot be limited to the poor. It may be possible for further research using a variety of economic measures of poverty to provide more insight into the relation between lack of resources and quality of life.

Economic Measures of Poverty

Economic definitions of poverty can be formulated in two rather different ways. In one, poverty is defined specifically in terms of what the overall population has. These are usually called relative definitions. A purely relative measure defines a fixed percent of the population as poor. A quasi-relative measure defines the poor as those whose income is below a fixed percent of the median income. A commonly proposed purely relative definition is the lowest quintile or quartile. A commonly proposed quasi-relative definition of poverty would set the threshold at 50 percent of median income.

In the second type of definition, poverty is defined in terms of a family's ability to purchase a specified market basket of goods and services. These are usually called absolute definitions because the cost of the market basket is determined objectively and serves as the threshold. However, the composition of the market basket is subjective and represents a judgment about some minimally acceptable level of living. Since this judgment varies with the general standard of living, absolute definitions of poverty are meaningful only with reference to a given period and place.

Underlying many conceptions of poverty is some notion of the ideal (or at least an acceptable) shape of the income distribution. Formal expressions of some minimally acceptable amount of inequality go as far back as Plato, who suggested that in an ideal society no man should be more than four times richer than any other (The Laws). A modern day philosopher, John Rawls, has suggested that a just income distribution would be that which people would select if they did not know in advance where on the distribution they would be. He believes that the amount of inequality that would be acceptable would be that amount which would produce the greatest amount of well-being for the least advantaged. 2/ Rawls' work was widely acclaimed when first published but has lately been receiving extensive theoretical criticism.

Poverty need not, however, be conceived of in ethical terms. It can also be simply a notion of what it takes to "get along," without regard to any obligation to those who have less than that. Over the years Gallup polls have included questions on the minimum amounts of money needed by families to get along. These questions address only the bottom portion of, and not the entire, income distribution; they do not address issues of redistribution. They also do not consider the difference between what people think they, themselves, would consume and what they would be willing to be taxed for in order to provide for others.

A fundamental decision in any of the poverty definitions is how to determine the level of the threshold, that is, the level below which people are designated poor. This is clearly the case in the absolute definition. However, the fixed percent in the purely relative definition or the fixed percent of the median in a quasi-relative definition must also be arbitrarily chosen. Those measures based on community views are to some extent free from this difficulty. 3/ The Council of Economic Advisors Report in 1964 chose 20 percent, but justified it by referring to a study using a market basket approach. The quasi-relative definition most frequently used is 50 percent of the median income, chosen in 1967 by Victor Fuchs as an arbitrary but reasonable number. 4/ It was at about the same level as the Orshansky level in 1959.

The relative definitions arose largely in response to difficulties inherent in revising an absolute level to reflect growing affluence. Even when an absolute threshold is adjusted for changes in the level of prices, a diminishing proportion of the population is classified as poor when income shifts upward due to increases in real productivity over time. Purely relative measures, on the other hand, are criticized because the poverty population will be the same fixed percent whether examined in different places or at different times, even though the level in real terms will be different. Similarly, a definition which is a fraction of the median income has been criticized because, although it does allow for the possibility of diminishing or eliminating poverty, this will happen only if the income distribution changes. Since the overall income distribution has not changed measurably during this century, analyses using this measure differ little from those using a purely relative measure.

For all economic definitions, setting the level of poverty and defining income are required.

Setting a Poverty Level

Needs can be defined as what is required to survive or to get along at a "minimum standard" compared to the rest of society. Until the last two centuries, nations generally had little choice except to define it in terms of survival; only a small proportion of the population did much better than subsist. But typical levels of living improved in the last two centuries, and some people began to look at poverty as a comparative state. Adam Smith in 1776 (Wealth of Nations) wrote:

> By necessaries I understand not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the century renders it indecent for creditable people, even of the lowest order, to be without.

By the 20th century, this view of poverty as a comparative state gained considerable support in the United States. The budgets prepared by the Bureau of Labor in 1907 mark a distinct turning point in the concept of poverty: budgets were devised to meet "minimum standards" (i.e., subsistence) as well as a "fair standard" -- to include goods needed for the "development and satisfaction of human attributes." It is to be noted, however, that more recent budgets developed by the BLS since 1948 for a city worker's family have not centered on the concept of poverty but on various levels of living for a year-round full-time worker in the United States.

Most Americans today would probably agree that a poverty standard ought to include the ability to satisfy needs in addition to those necessary for survival. However, just what the minimum standard should be is subject to considerable debate.

Standards of Physical Needs

Two alternative techniques were used in early studies to calculate resources needed to achieve subsistence: surveys of actual expenditures of the poor, and the "pricing out" of a hypothetical market basket. Both techniques have survived to some extent today, but only the latter is discussed here in depth. The former, surveying actual expenditures, requires some notion of the total level of resources considered adequate, which is often derived from a consideration of the total resource distribution. Development of a hypothetical market basket requires the determination of those commodities or goods in specified amounts to be included in the market basket. Currently, state welfare agencies use this approach as one consideration in determining the size of payments. The problem with determining a measure using the hypothetical market basket approach is that there is currently no objective method for determining all needs. The two components most often considered are food and housing.

Nutritional standards exist from several sources. Some of the more prominent are: Recommended Dietary Allowances, Eighth Edition, National Academy of Sciences (RDA); Handbook of Human Nutritional Requirements, Food and Agricultural Organization of the United Nations (FAO); and Standards for Evaluation of Daily Dietary Intake used in the Health and Nutrition Examination Survey United States 1971-72 (HANES Survey). These standards specify amounts of nutrients for various age-sex combinations. The standards can be translated into combinations of foods that might be expected to sustain life and good health. Furthermore, it is possible to examine diets and measure the actual intake of nutrients of individuals or subgroups of the population. But, it is important to note that even the nutritional standards -- that is, the amount recommended for optimal consumption or to avoid consequences of nutritional deficiency -- are not without question. Many countries use lower standards and even in this country there is disagreement as to whether the margin of safety is set too high.

Moreover, adequate nutrition can be obtained from diets varying widely in quality and cost. The determination of which foodstuffs and in what quantity constitute an appropriate diet even when empirically based requires some arbitrary assumptions. Finally, studies have shown that, even at upper income levels, 30 percent or more do not consume "nutritionally adequate" diets -- diets that provide recommended amounts of all nutrients considered.

There are no commonly accepted standards of need for housing. It is important to distinguish here between housing standards and standards of need for housing. There is no lack of housing standards such as building codes which define acceptable methods of construction and materials or home inspection criteria used in connection with private or Federally supported loans. Housing standards also pertain to the existence of facilities (toilet, bath, sink, electricity), to the level of maintenance (both structural and sanitary), and to occupancy.

None of these housing standards, however, are widely accepted as a standard of need. They do not tell what kind or how much housing is necessary for the basic health of occupants, although there may be some relationship. Currently, there is little agreement about the character of a threshold description of housing, without which families are considered to be deprived or poor. Despite this, the Housing and Community Development Act of 1974 refers to "decent, safe, and sanitary dwellings," but without setting standards.

One of the reasons why standards of need for shelter are so difficult to construct is that differences due to climate, to type of residential area (farm-nonfarm, inner city-suburb), to type of dwelling (high-rise apartment, duplex, single family dwelling, mobile home), and to type of financial arrangement (renting, buying, joint ownership) require highly flexible standards of need. For example, most Northern residences need heating systems, some Southern residences do not.

A good example of the theoretical problems associated with standards of need for housing is the "number of rooms" component sometimes used for analytical purposes. By this definition, a house or apartment is considered substandard if the number of rooms is less than 1.01 rooms per occupant. (Previous definitions used 2.0 and then 1.5 occupants per room). While this may appear reasonable for small families, it is not when applied to large families.

Nonetheless, it may yet be possible to develop a standard of need for housing based, perhaps, on minimum floor space per person and on existence of basic facilities like running water, power, and on the maintenance of acceptable temperatures.

For other categories of basic needs, there are no generally accepted scientific standards. Thus, to measure poverty using such an approach requires either resolving the conceptual problems involved in determining such standards, or using less rigorously defined notions of deprivation. Chapter III, Data Availability and Limitations, describes the significant surveys and statistical series which are applicable to the subject of standards. In Chapter IV, we explore those alternatives which can be derived from existing data.

Adjustments for Family Size and Composition

Thus far, we have discussed family needs as though all families were alike or could be averaged. The needs of individuals or families clearly depend on their circumstances, as well as on the ethical or normative principles of society in general. One normative principle calls for equal treatment for families enjoying equal well-being. In the case of poverty, equal well-being is usually interpreted as economic well-being. Unfortunately, the only straightforward application of such a principle is that families which are identical in every relevant respect should be treated equally. Although some theoretical work in consumption economics has been directed to determining equivalent incomes for families that differ in size and composition, its application is constrained both because of theoretical and data limitations.

Recently, there has been some question of whether tax and poverty programs ought to consider the need differences of particular family groups. The argument against adjustments has taken two forms. First, there has been concern that coupling tax deductions or income maintenance payments to family size provides incentives for having larger families. Empirical evidence on this issue is limited and conflicting, and no definite resolution is possible at present.

The second, more subtle, argument against making such adjustments comes from the comparatively new theory of "human capital" in economics. It argues that, to a large extent, family configurations can be viewed as the result of a rational, deliberate choice, in which the costs and benefits of family size are weighed and optimal familial relations are decided. Decisions on living arrangements -- like whether a woman marries, lives alone or lives with her grown children -- are considered the result, to a significant degree, of the same rational procedure conventionally assumed to explain a consumer's choice between apples and oranges. To the extent that one believes that the decision to marry or to have children is the result of deliberate choice, small families may not be better off than large families with equal incomes. The human capital argument does not state that family physical needs are not greater the more persons there are, but that non-monetary benefits may balance the greater physical needs.

This position has been attacked on two basic grounds. First, the assumption of rationality and control in decisions of marriage and children has been challenged. Second, the argument assumes that a family is somehow better off for having achieved its status voluntarily. Most opponents have concentrated on the ironic inconsistency that some members of the family may not have been volunteers.

The majority view is that poverty budgets should be keyed, to some extent, to family size and composition. Determining the nature and size of adjustments, however, is no easy matter. First, the particular attributes of family structure which create need differences must be identified. Family size is the first and most obvious candidate: some needs such as food and clothing increase with family size. Indeed, most state welfare departments, as well as the Federal income tax system, allow adjustments for family size. Age, both of children and of the head of the household, also appears to influence need. Employment status of the head of household, mother's employment status (and child care needs), and residence are also suggested as possible determinants of need.

Both the relevant attributes and the size of the adjustment to be made for each particular attribute need to be determined. The basic problem here, and one which has occupied social scientists and policymakers since Engel's work in the nineteenth century, is to quantify equivalent living scales for families of different types. 5/

The simplest technique available to adjust budget requirements for differences in family size is a simple linear expansion: each individual is assumed to have equal "needs" -- needs which are independent of either his own characteristics or the characteristics of the family unit to which he belongs. The linear expansion technique assumes that needs are constant across individuals; only the number of people and not the type of people is relevant to budget requirements, and there are no economies of scale.

Empirically, however, it has been determined that needs do vary with individual characteristics, particularly with age and sex. In addition, the linear expansion technique does not take into account the degree to which some consumption goods, like television sets and automobiles, are shared without proportionate increases in costs as family size increases. While the old adage that "two can live as cheaply as one" is no doubt an expression of romantic optimism, the empirical evidence does indicate real savings from shared expenses.

Early consumption studies suggested that the percentage of income a family would spend on a particular group of goods would change as the level of the family's income changed. For some goods -- termed necessities -- the percentage would decline as income level increased. In general, then, two equivalently composed families with different incomes would spend different percentages on given items; the higher-income family would, in general, spend a smaller percentage of its budget on necessities such as food. Some current "equivalent income" techniques assume that families which spend equal proportions of their income on food have attained equal levels of living. 6/

There are several problems with this technique. The underlying assumption of equivalence is arbitrary. Also, it assumes that the degree of satisfaction achieved is independent of the absolute level of expenditure (or consumption). There is no empirical evidence or theoretical basis to support such an assumption. Furthermore, the results are sensitive to the commodity chosen for the index. Percentage of income spent on food has frequently been used in the past; however, the proportion of income spent on housing may be as good a measure of well-being and leads to quite different equivalence scales. The scaling index will differ depending on which commodity is used. Chapter III describes the consumption surveys which can be used to derive equivalence scales. Chapter IV further examines the equivalence scales presently used.

The equivalence scale underlying the current poverty matrix is different from those described above. It attempts to derive the equivalence scale on the basis of need rather than actual expenditures. Food costs for families of different age-sex composition (family types) were derived by "costing out" food needs based on nutritional requirements (for men, women, and children of different ages) suggested by the National Research Council; this allows consideration of age and sex differences in need. A multiplier was then applied to the food requirements to reflect nonfood needs. The assumption that for certain family sizes the equivalence scale for nonfood items is the same as for food items has been criticized. Other chapters discuss this methodology in much more detail, and Chapter IV examines the implications of updating the matrix using the same methodology and more current data.

Geographic Cost-of-Living Differences

Many people believe that the cost of living varies across geographic areas. Income levels do vary significantly from region to region and between rural and urban areas, but the extent of variation in the cost of living is difficult to determine. Technical Paper XV, Analytic Support for Cost-of-Living Differentials in the Poverty Thresholds, Technical Paper IV, The Bureau of Labor Statistics Family Budget Program, and Technical Paper XIII, Geographic Differences and Relative Poverty discuss this in more detail. To show why this issue is so problematical, some basic conceptual problems are presented below. If prices do vary from place to place, then obviously the price of a fixed market basket of goods and services would also vary. But, if taste preferences also vary from place to place, the fixed market basket may not be an appropriate indicator of the cost of living. "Needs" vary, especially those which are related to climate or the particular economies and diseconomies coming from dense or sparse population. Also, some goods are not available uniformly. The variations in quality and availability of medical service and of publicly provided goods and services are examples of striking variation among geographic areas.

The fact that in a given area the notion of what is considered poor depends upon the general level of living of the area itself poses a special dilemma in attempting to measure geographic variations in the cost of living. A standard of need determined on a national basis may appear unduly generous in local areas if the local cost is less than the national average. If a large proportion of a local population would be considered poor under a national definition, it is easy to believe that the national definition is somehow unfounded. For that reason, a national standard benefit level could cause problems. For example, when the Senate Finance Committee debated the proposed Family Assistance Plan in the early 1970s, committee members were very disturbed that a benefit of $2,400 for a family of four meant 35 percent of Mississippi's population would be eligible while only 7 percent of Illinois' would be. Within a state it is also important to consider how a program benefit may distort levels of living between those who are eligible and those who are not. Accordingly, although cost-of-living differences from place-to-place are hard to define and even harder to measure, it is sometimes expedient to administer a program differentially to accommodate differences in prevailing local wage rates or costs of specific items such as housing or medical care.

With any geographically defined deflator there arises the problem of boundaries. Conceptually one could imagine a perfectly continuous function defined on the basis of U.S. latitudes and longitudes. But the practical alternatives have the drawback of treating neighbors on different sides of the SMSA, state, or regional boundaries quite differently. This is not a severe problem if the objective is limited to aggregate measures in which the inequities roughly balance out. But if the poverty indicators are used to determine whether individual persons or families are eligible for various programs or benefits, inequities might arise. One would want to avoid making one individual eligible for particular benefits when a neighbor across the street -- which serves as a boundary -- is ineligible but equally poor.

Updating the Standard

Although it may be desirable to change the level of any poverty measure from time to time, no regular changes for differences in prices are required for the relative measures of poverty mentioned in the section above on Economic Measures of Poverty. They are implicitly updated both for combined changes in the price level and for changes in general levels. No such implicit adjustment occurs for the absolute definitions. The cost of the market basket used by the absolute measures must be adjusted to account for changes in prices over time. The most appropriate way to adjust for prices is to determine the prices of each of the commodities in the market basket. To the extent that such pricing cannot be done, price indexes not based on the specified market basket are often used.

Index numbers suffer from several limitations for updating poverty; one of these comes from the so-called "aggregation problem." Index numbers are usually derived from observing what goods are consumed by a group of different individuals. These goods are then used to represent what a "typical" consumer buys or to represent a "typical" market basket. To the extent that there may be significant differences across individuals, price changes that affect commodities differentially will have different effects on individuals. If groups of families have substantially different consumption patterns, one might wish to use several price indexes, appropriate for particular subgroups of society. Two final limitations arise with currently published price indexes: the market basket may be restricted to private goods and services, omitting such things as public goods and services, leisure, and goods received in kind; and accounting for changes in the quality of goods over time is difficult.

Price changes over time may lead to changes in the cost of living which are not reflected in a price index. A basic postulate of consumer or welfare economics is that individuals purchase goods in order to maximize their satisfaction, subject to the constraints imposed by their incomes and the existing price levels. The extent to which a price change of a single good will affect an individual's welfare depends on his preferences and on the size of the price change. For most individuals, an increase in the relative price of a good causes the individual to change his purchases of that good (and those goods that are complementary to it) and to increase his purchases of substitute goods. That is, a change in the price of a good probably alters the market basket that is purchased, i.e., a change in relative prices is likely to alter expenditure patterns. Thus, the weights attached to goods in the market basket prior to price changes may no longer be appropriate.

Income and Resources

Poverty levels are generally compared to income or resource levels. Within a money economy there is a strong tendency to confine the notion of income to those receipts which are in the form of money or are "payments in kind" for production of goods and services to be used for or by someone else. Such income does not include the returns for goods and services provided for oneself. Resources include both those which produce money earnings and the rest of our accumulated stock, to which cooking utensils and houses both belong. Whether items produced or used at home should be counted as income, or the associated stock of consumer goods counted as resources, depends on the purpose for which the definition is to be used. The well-being of families also differs depending on whether the income reported is for a month or for a period of five years, on the existence of both financial and non-financial assets or in-kind income, on the receipt of lump sum income, and on the composition of the consumption unit.

For analytic convenience, issues associated with setting the poverty level have been separated here from those associated with measuring income or resources to be compared with that level. However, the poverty threshold and the income measure should be consistent with one another. For example, if medical needs are included in determining the poverty threshold then medical resources like insurance or medical assistance programs should be included in the income measure. Similarly, if some value of assets is included in the income measure, the need for assets should be reflected in the threshold. Practically, it may be more convenient to omit some items from both the threshold and resource measure than to include them. If the definition of income were changed to include the value of in-kind benefits, for example, and if the logic of the existing measure were maintained, the ratio of after-tax income to food expenditures which is used in computing the poverty thresholds might be altered. Similarly, whether or not the number of poor would change if unrealized or imputed income from assets were added to current income would depend on the distribution of such imputed income.

Accounting Period

Except where interest is specifically in emergency or special situations, poverty will usually be perceived in terms of an individual's ability to sustain a particular status for some period of time. The particular duration, whether it is to be a week, month, year or lifetime, depends on the particular purpose the definition of poverty is meant to serve, since the variation in the flow of income an individual receives during any given period affects his well-being during the period. Consider the following streams of earnings:

	Period		
	1	2	3
A	$ 300	$ 300	$ 300
B	1500	-0	1500
C	1000	1000	1000
D	3000	-0-	-0-

In any one period it is clear who is best off and who is worst off for the period. If, however, we were in the middle of the second period and had no knowledge of or ability to predict future earnings beyond the second period, we could say, one, that C was currently better off than all others and, two, for the two periods C is better off than A and B. Whether A is better off in period 2 than D depends on whether equal weight should be given to all parts of the two periods. If we were at the beginning of the three periods and assumed that each of the four individuals knew what his own earnings pattern would be, our perspective would be different still. Person D would have the highest consumption potential since he could invest part of his earnings early in the period and enjoy the interest later. Person A would have the least consumption potential; his three-period income is less than the first-period income of any of the others. Whether B and C are financially equal would depend on whether the cost to B of borrowing against his third-period income is greater than the interest possible on savings from his first-period income. Whether B is actually better off than C will depend on the value of his leisure in the second year, and the value of leisure is a matter of taste.

This illustration was presented in terms of consumption potential and financial well-being; the four persons were assumed to be alike in all respects other than income; and why the wage patterns varied was not addressed. Well-being depends on the perceived "voluntariness" of the irregularity. Someone who voluntarily goes without income for a year because he is taking a trip around the world is considered better off than someone with an identical income pattern who has lost his job, even if he chose his occupation knowing there would be long periods of unemployment.

The Census definition of income is limited to "regular" cash income and does not include receipts from insurance policies, capital gains, and the like, but does not adjust for unexpected losses like loss of income due to illness or unemployment. Counting the poor using the Census definition means that in any one survey year, people who are earning below their normal level will be included in the low-income group, while those who are temporarily earning much more than they usually do will not be counted in the low-income group to which they normally belong.

The size of the poverty population will vary significantly depending upon the time period of income required to be considered poor. If we examine monthly income fluctuations, the poor population will be higher than if we examine annual incomes. The appropriate accounting period depends in part on the aim of the measure. If the measure is to help design research which will measure the intergenerational transfer of income to different groups, lifetime income is likely to be the appropriate period. Analysis of basic education or inheritance taxation are examples. On the other hand, for designing programs which deal with emergencies or temporary low income, like temporary unemployment, a shorter accounting period is more appropriate.

Consumption Measures

Measuring money spent on consumption rather than money income has frequently been offered as an alternative definition of well-being because it eliminates much of the transitory phenomenon of unexpected gains or losses manifest in current income figures. In other words, consumption stands as a proxy for long-run income. Available data indicate that replacing income with consumption as a poverty measure may have significant effects on the poverty count. Since at very low incomes, expenditures for consumption more often than not exceed income, a current income measure produces higher poverty counts than a consumption measure. In particular, a consumption measure would reduce the number of young poor, who are frequently suffering only temporary poverty, and the number of aged poor who can maintain consumption by drawing upon savings.

Wealth

Wealth is also proposed as an alternative measure of well-being because people who possess wealth have a kind of security not available to people without it at comparable income levels. Wealth not only provides income but is, itself, a resource which may be consumed. To the extent that we could measure "human capital" as well, wealth would give us a clearer picture of lifetime income. Studies of the effects of a wealth and asset measure on the number and composition of the poor population reveal that, with the exception of the aged, people poor in income are in general also poor in wealth. Thus, a wealth based measure would reduce poverty somewhat for all groups and especially for the aged. A wealth measure would also significantly alter the distribution of economic status for the entire U.S. population, by showing even more people in the upper income brackets.

The use of a wealth measure, or a measure combining wealth and income, poses many technical problems in addition to those of properly assessing the value of an individual's wealth, choosing the appropriate interest rate, and arriving at a fair period of time for annuitization and differences in the liquidity of assets. Even with an income measure of poverty, many sources of income are unrealized (for example, appreciation in the value of property or business) and can be best estimated or imputed only by knowledge of the wealth underlying the income. Investments in owned homes or automobiles also yield in-kind income. Exclusion of such income will bias estimates of aggregate income downward and distort income over time and across households. Such problems should not obscure the need to consider more than just current cash income in assessing a person's financial status. Financial well-being depends on more than just current income. Technical Paper VI, Wealth and the Accounting Period in the Measurement of Means discusses these issues.

Taxes

A measure of income might aim at a "disposable" income, including cash and in-kind benefits. However, tax payments may be as important as transfers in modifying gross income to achieve a total resource measure. The incidence of taxation, or who actually pays the tax, is both theoretically and empirically a very difficult issue. Thus, although the incidence of personal income taxes may be relatively straightforward, the incidence of corporate income, excise, or payroll taxes is not. To the extent that taxes represent user charges for services provided by governments, it would be appropriate to ignore taxes only if the services were also ignored. Unfortunately, it is difficult to evaluate these incidences and services, and survey data are unlikely to help. Chapter III discusses the availability and limitations of data from the Internal Revenue Service.

In-Kind Income

Individuals in our society receive a multitude of in-kind income, that is, benefits that take a non-cash form. 7/ These benefits or subsidies may be provided by the government or the private sector. Examples of government in-kind benefits range from in-kind transfers (such as food stamps or Medicare) to investments in human capital (such as education) to subsidies within the tax system (such as interest and property tax deductions for homeowners). In the private sector, in-kind benefits such as health insurance or free housing may be provided by employers or may be entirely dependent on individual choices (such as owner-occupied housing or home-grown food).

In-kind subsidies are now sizable in absolute terms. Moreover, they have grown sharply over the past decade in breadth and size. Outlays in the food stamp program have risen from less than $100 million in 1965 to $4.6 billion in fiscal year 1975. Medicare and Medicaid, which were not legislated until 1965, now cost more than $25 billion a year, and the employer-provided portion of private health insurance is estimated to total about $20 billion annually. Deduction of mortgage interest and property taxes on owner-occupied homes is estimated to cost about $10 billion a year in lost tax revenues.

To exclude in-kind benefits from income calculations clearly biases aggregate income downward. Even more important, however, to ignore in-kind income distorts income comparisons over time and across households. The rise in in-kind transfers to low-income households during the past decade has been several times that of cash public assistance transfers. Fringe benefits have also been rising relative to wages and salaries. Ironically, this rise in in-kind benefits, many of them specifically aimed at reducing poverty, makes the current income measure used with the poverty line increasingly obsolete as a poverty performance measure, since it explicitly excludes the very programs instituted to reduce or alleviate poverty. It has been estimated that if food stamps were counted as income, the number of poor would decrease by 5 to 15 percent in 1974. Incorporating Medicare and Medicaid would also reduce the poverty count substantially, if the definition of poverty remained unchanged. Public housing, free school lunches, "Meals on Wheels" for the aged, legal aid, neighborhood health centers, and a long list of other in-kind social programs are other sources of resources for the poor. While other programs, such as government subsidies to public universities, benefit the middle and upper classes much more than the poor, and a systematic inclusion of in-kind benefits might not have a major impact on the overall income distribution, under any definition of poverty other than a purely relative one (and to some extent under a relative definition), inclusion of in-kind benefits could reduce the poverty count and would change the demographic composition of the poor.

Unfortunately, the incidence of in-kind benefits is particularly uneven across households. Not only do the various types of government and private in-kind benefits apply to prescribed, and often different, segments of the population, but also the incidence of each type of in-kind income across the potentially eligible population varies. For example, many low-income households are excluded from eligibility for Medicaid, and most are excluded from public housing; and employer-provided health and life insurance in 1970 covered two-thirds of non-office employees in non-union establishments but 97 percent in union establishments. Hence, the accurate attribution of in-kind benefits to income would involve substantial data collection and manipulation.

How these in-kind benefits should be valued is an important issue in the measurement of income and poverty. Typically, published data on the amounts of in-kind income provided through various programs are shown in terms of the providers' costs or outlays. For example, among government in-kind transfers, it is the cost to the government (i.e., program outlays exclusive of administrative costs) that is equated with recipient "benefits." However, the value to the recipient may not necessarily equal outlays by the government.

The argument for valuing in-kind income differently from government outlays is based on a notion of the cash income a family would accept in lieu of its in-kind income to leave it just as well off (a "willingness to pay" measure). It is usually assumed that a household receiving income in the form of cash will spend that income on its most preferred bundle of goods (including savings). In-kind income, however, is provided in the form of a particular good or set of goods. After receipt of the in-kind income, then, the household's bundle of goods may include more (or in some cases less) of the particular good than it would choose if given cash. By not permitting the household to exercise complete freedom in the choice of a bundle of goods, that bundle with the in-kind component may be worth less to the household than if it had been given an equivalent in cash.

Receipt of in-kind income may influence the recipient's choice of a bundle of goods by constraining consumption amounts directly and/or altering the relative prices faced by the recipient. Programs like food stamps and public housing set amounts of food and housing, respectively, that must be consumed if program benefits are to be enjoyed. Partially or fully subsidized health benefits, on the other hand, normally leave amounts of health care consumed up to individual recipients, although it does alter the prices faced by the recipient.

In order to treat in-kind income consistently with cash income as perceived by the recipient -- which does allow families full choice over how to spend income -- the provider cost of in-kind subsidies might be reduced (or, in rare cases, perhaps increased) to equal their cash equivalent value to individual families. The cash equivalent value of in-kind subsidies will generally fall between zero and 100 percent of provider outlays. It will be greater than 100 percent if it can be provided by the government more efficiently than the private sector and if the recipient would have purchased at least the amount provided. It will not be negative as long as potential recipients are not forced to participate. Moreover, observation that recipients purchase greater amounts of the good on the market than is provided through the in-kind subsidy is a sufficient condition for valuation equal to provider cost.

The recipient's valuation does not reflect the full value of in-kind benefits to society, however. The taxpayer, the employer, or society at large may indirectly benefit from the provision of the in-kind income. The government ascribes a value to the benefits which is at least equal to the outlay. It is precisely because the public's valuation may be greater than the recipient's valuation that in-kind benefits are provided in the areas of health, housing, and nutrition.

There is disagreement about whether the recipient's valuation of in-kind benefits should determine their income value. Work is being undertaken to explore and evaluate methods of valuing in-kind benefits for the purpose of incorporating them in income statistics.

Consumption Unit

So far we have discussed income without any discussion of the unit receiving the income. The basic units used in the current statistics on poverty are families and unrelated individuals. Under the current definition, the poverty status of a person 14 years of age or older who does not live with someone to whom he or she is related is determined entirely by his own income. The poverty status of a person who does live with one or more relatives is determined by the income of that person plus the income of those relatives with whom he or she lives. Thus, persons whose own income is below the poverty line would be counted as poor if they lived alone, but not if they lived with relatives possessing enough income for all. Aged "other relatives" and mother-child subfamilies are important examples.

There are, of course, good reasons for choosing families and unrelated individuals as the basic units. There are traditional and legal bonds which cause families to exist as economic entities. Bonds between or among unrelated individuals who share a single residence are generally much weaker.

However, for poverty identification, when comparing income against some consumption norm, the unit which shares consumption activities seems most relevant. Although many consumption units coincide exactly with families and unrelated individuals, there are many instances in which the consumption unit does not. For example, although the bond may be weaker, households made up of unrelated individuals may share in most of the benefits of economies of scale that characterize the economic situation of families: sharing appliances, sharing heating and plumbing equipment, and purchasing and preparing foods in large quantities. In some cases, too, the bond existing between a family and an unrelated individual or between unrelated individuals is as strong as a family bond. Unmarried couples who live together would presumably regard themselves as a single economic unit, and it is likely that many families who have unrelated individuals living with them consider that individual part of the family for economic purposes. It is for these reasons that in Chapter IV we examine some different definitions of economic units for defining poverty.

Choosing an Income Definition

The choice of a conceptual definition of income or resources frequently depends on the purpose for which it is to be used. For instance, if we are concerned with examining the necessity for providing income during a brief period of unemployment, the income concept used may have a relatively short accounting period where only liquid assets and in-kind income (replacing short-term consumption) are incorporated at full value. On the other hand, for a program of compensatory education, a predicted lifetime income concept may be more appropriate. Like the poverty concept itself, many alternatives are conceptually available for use.

NOTES TO CHAPTER II

1. This chapter draws heavily without further citation on material prepared by Urban Systems Research and Engineering, Inc., and duplicated in Tecnnical Paper III.

2. John Rawls, *A Theory of Justice* (Cambridge: Harvard University Press, 1971).

3. Robert Kilpatrick, "The Income Elasticity of the Poverty Line," *Review of Economics and Statistics* (Cambridge: Harvard University Press, 1973), pp. 327-332.

4. Victor R. Fuchs, "Redefining Poverty and Redistributing Income," *Public Interest*, No. 8 (New York 1967).

5. E. Engel, "Die Productions- und Consumptions-verhaltnisse des Konigreichs Sachsen" (1857), Reprinted in *ISI Bull.* 9, Appendix and "Die Lebenskosten Belgischer Arbeiter-Familien Fruher und Jetzt" (1895), *ISI Bull.* 9, p. 1.

6. Harold W. Watts, "The Iso-Prop Index: An Approach to the Determination of Differential Poverty Thresholds," *Journal of Human Resources*, III (Madison, Winter 1967), pp. 3-18, and U.S. Department of Labor, Bureau of Labor Statistics, "Estimating Equivalent Incomes or Budget Costs by Family Type," *Monthly Labor Review* (1960), or "Revised Equivalence Incomes or Budget Costs by Family Type," *U.S. Bureau of Labor Statistics Bulletin*, 1570-2 (Washington, D.C.: Government Printing Office, November 1968).

7. The subject of in-kind benefits is discussed in greater detail in "In-kind Income and the Measurement of Poverty," by Jan Peskin, to be issued as a Technical Analysis Paper of the Office of Income Security, Department of Health, Education, and Welfare, and included as Technial Paper VII of this report.

III. DATA AVAILABILITY AND LIMITATIONS

As Chapter II makes evident, there are a number of concepts of poverty, each with its own theoretical advantages and limitations. For any definition to be of practical use, it must be capable of objective measurement. There must be data available to construct and apply the measure, data whose appropriateness and reliability can be assessed.

Chapter II focused primarily on economic measures of poverty. Whatever the relative theoretical merits of other concepts of poverty, economic measures have the decided practical advantage. Although the construction of economic measures is limited by data appropriateness and reliability, there is more data available to support the construction and use of economic poverty measures than alternative ones. In fact, all poverty measures developed for Federal government use to date are based on some concept of economic status or need.

This chapter reviews and evaluates existing data sources that can be used in connection with various economic poverty measures. It initially considers data bearing on measurement of needs, and then on measurement of resources. A comprehensive guide to available Federal data bases and computer files pertaining to aspects of poverty measurement is provided in Technical Paper IX. There are also technical papers providing detailed coverage of the Consumer Price Index, the BLS Family Budgets Program, the 1972-1973 Consumer Expenditure Survey, and the Agriculture Department's food plans.

In evaluating the usefulness of each data source for its intended purpose, the following criteria should be considered:

First, the data source should be an appropriate or valid indicator of what it purports to measure. For example, a data source that provides information solely on consumption practices with respect to food, housing, transportation, or other basic commodities by different types of families is a less valid indicator of need than a data source that establishes varying physiological requirements for different food nutrients.

Second, the data source should be reliable to the level of detailed differentiation of the population which is desired. Because most current data on characteristics of the population are obtained from sample surveys rather than from complete census counts, efforts must be made to ensure that samples are sufficiently large and representative of the population or universe being estimated. The sample size and design affect the size of confidence intervals for particular population subgroups and determine the reliability of estimates of population parameters. Data reliability can also be affected by non-sampling errors, such as misreporting by respondents or mistakes in editing or coding.

Third, the data for things that are changing rapidly should be obtained relatively frequently. For example, while data on prevailing food consumption patterns have been collected at intervals of approximately ten years, data on family income are collected annually.

Data for Measuring Needs

Most economic measures of poverty are based on some minimum level of living. In general, needs are defined and then expressed in cost terms so that they can be compared to resource levels, or to capabilities of purchasing goods and services. People counted as poor are people without the income or resources necessary to attain the specified level of living. The following discussion evaluates data sources available for defining different needs. Objectively based standards of need are described first. Then more subjective standards are presented. Data on food are examined first, because food is the cornerstone of the presently used Orshansky poverty measure and because it is a most basic need.

Food

The National Academy of Sciences-National Research Council has established Recommended Dietary Allowances (RDA) for 17 different food elements or nutrients (e.g., iron, calcium, vitamin A) for 20 age-sex groups (e.g., children aged 1 to 3 years, men aged 35 to 55, nursing mothers). The RDA are revised about every 5 years to reflect new knowledge of human nutrition. For example, the RDA released in 1958 and reflected in the economy food plan used for the Orshansky measure were revised subsequently in 1963, 1968 and again in 1974. Although the acceptance of the RDA is attested by their role in the 1974 food plans of the U.S. Department of Agriculture, there are other sources of nutritional standards. Among these are the standards set by the Food and Agricultural Organization (FAO) of the United Nations in its Handbook of Human Nutritional Requirements and the standard for evaluation of Daily Dietary Intake used in the U.S. Public Health Service and Nutrition Examination Survey (HANES) of 1971-1973.

The RDA, and other nutritional standards mentioned above, are research-based standards of need. However, the specification of the nutritional standards has an element of subjectivity because knowledge about nutritional needs and variation in needs among individuals is incomplete. Levels are usually set to cover what are believed to be the requirements for nutrients for almost all people. Thus, "even if a person habitually consumes less than the recommended amounts of some nutrients, his diet is not necessarily inadequate for those nutrients." 1/

The FAO and HANES standards for some nutrients are lower than the RDA; yet food plans based on FAO and HANES standards are only slightly less costly than those based on the RDA. (See Technical Paper XII.) The RDA in 1974 are substantially different from those in 1958 -- higher for some nutrients and lower for others -- and the RDA were specified in 1974 for some nutrients not covered in 1958. Food plans based on the 1974 RDA are more costly for some age-sex categories and less costly for others than plans based on the earlier RDA.

A large number of food items of different nutritional composition are available at widely different costs. Therefore, diets at widely different levels of cost can be developed, each providing recommended amounts of nutrients but some being more palatable than others. Food plans are developed by the U.S. Department of Agriculture incorporating not only the RDA but also actual consumption patterns of families at different spending levels. Hence the actual food plans incorporate a major subjective cost element and are not the minimum cost of obtaining the RDA. The economy food plan used in the Orshansky measure, which resulted in costs averaging 75 to 80 percent of the low-cost plan, reflected food selections and costs from the 1955 Survey of Household Food Consumption conducted by the USDA. The Agricultural Research Service has recently revised its low-cost, moderate-cost, and liberal food plans, and has just finished replacing the economy food plan with the "thrifty" plan, to incorporate new nutrition standards and more current food preferences, based on data from the 1965-66 Survey of Household Food Consumption. This is the most recent such survey. It is expected to be repeated within the next couple of years. This would permit another revision of the basic food plans. 2/

Both the 1955 and 1965-66 surveys collected data on the amounts and costs of foods and beverages used at home during the seven days preceding the interview. Over 15,000 households were selected for each survey to represent metropolitan areas, cities of various sizes, and rural farm and nonfarm areas in all parts of the United States except Alaska and Hawaii. Information collected on the household itself included age, sex, height, weight, status in household of persons eating out of household food supplies, the number of meals eaten at home and away by each member, plus the age, race, education, and employment status of the homemaker. Family income information was also collected. The sample was designed to provide information separately for urban, rural nonfarm and farm families in the four Census regions. Only housekeeping households are included: families or individuals that take all of their meals outside the home are not interviewed. The surveys measure food consumption at the level at which foods come into the kitchen; in other words, the data represent food as cooked and served rather than as actually eaten by each household member or guest. The 1965-66 survey obtained information on a day's food intake for each individual in about half the households interviewed in the Spring.

Assessment of the reliability of the data indicates that, for the 1965 survey at least, the sample was reasonably representative of housekeeping households in the U.S. on key family characteristics dimensions. The sample size, which is close to 1/9,000 of the universe of households for the Spring portion of the sample, is more than adequate for reliable estimates by size of household or for different age-sex groups.

The Orshansky measure used a 1961 economy food plan based on the 1958 RDA and consumption data from the 1955 household survey. In describing its 1974 plans, the Department of Agriculture indicated several reasons for revising the old plans. First, the 1974 RDA differed substantially from the 1958 RDA. Second, the nutritive value of some foods changed. For example, many ready-to-eat cereals are now fortified with more vitamins and minerals. Third, actual food consumption patterns changed at all income levels as evidenced in the 1965 survey. Finally, shifts in relative food prices occurred over the ten years. Thus, several foods used generously in the 1964 low-cost plan, such as dry beans and potatoes, increased markedly in price and were relatively more costly in 1974. The percentage of family income spent on food was lower in the 1965 study than in 1955.

The USDA now estimates the cost of food at home each month based on the food plans at four levels of cost for 12 different age-sex categories and pregnant and nursing women. Costs as published assume that individuals are living in four-person families. Scale adjustments for family size of one person up to seven or more are suggested to allow for economies that large families have over small ones in buying and using food.

Table 4 displays the total weekly cost in September 1974 prices under the low-cost plan for comparable age-sex groups as specified in 1974 versus 1964. For as many as 8 of the 18 categories, the 1974 food plan indicates lower costs than does the 1964 plan. Technical Paper XII explains the details of the food plans.

Housing

Some effort has gone into developing standards for basic housing needs, but definitive standards comparable to the RDA or the Department of Agriculture food plans do not exist. The American Public Health Association (APHA) developed housing recommendations that are currently incorporated, along with recommendations of the U.S. Public Housing Administration in the Bureau of Labor Statistics family budgets. An unfurnished five-room unit with a complete private bath is recommended for a four-person family living in a rental unit, while a five-room or six-room house with 1 or 1-1/2 baths is recommended for the same family living in their own home. Both the rental unit and the owned home must be in sound structural condition; have a fully equipped kitchen, hot and cold running water, electricity, central or other installed heat; be located in neighborhoods free from hazards or nuisances; and provide access to public transportation, schools, grocery stores, and play space for children. 3/

An obvious problem with the APHA housing standards is the lack of specificity of many components, such as "sound structural condition" or absence of "hazards or nuisances." Assuming that relevant data for such components are available in the first place, considerable subjectivity is necessarily involved in deciding which housing units in a given community meet the standards for purposes of setting cost levels and making substitutions where none can be found.

Table 4. Weekly Cost of Food at Home, Estimated for 1974 Low-Cost Plan and 1964 Low-Cost Plan, September 1974 Prices

Sex-Age Group	1974 Low-Cost Plan	1964 Low-Cost Plan
Families:		
Family of 2, 20-54 years[a]	$26.70	$26.50[e]
Family of 2, 55 or more[a]	23.60	21.60
Family of 4, preschool children[b]	37.70*	38.20[e]
Family of 4, school children[c]	45.60	44.70[e]
Individuals:[d]		
Child:		
7 months to 1 year	5.10	5.00
1-2 years	6.10*	6.40
3-5 years	7.30*	7.70
6-8 years	9.50	9.50
9-11 years	11.80	10.95[f]
Male:		
12-14 years	12.70*	13.00
15-19 years	13.90*	15.00
20-54 years	13.50	12.55[f]
55 years and over	11.80	10.25[f]
Female:		
12-19 years	11.20*	11.95[f]
20-54 years	10.80*	10.90[f]
55 years and over	9.70	8.55[f]
Pregnant	13.40	13.10
Nursing	14.20*	15.30

SOURCE: Betty Peterkin, "U.S. Department of Agriculture Family Food Plans, 1974" (December 1974), Tables 4 and 5.

* Indicates instances where the 1974 food plan cost is lower than the cost for the 1964 food plan.

[a] Ten percent added for family size adjustment.

[b] Man and woman, 20-54 years; children, 1-2 and 3-5 years.

[c] Man and woman, 20-54; children 6-8 and 9-11 years.

[d] The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1-person--add 20 percent; 2-person--add 10 percent; 3-person--add 5 percent; 5-person --subtract 5 percent; 6-or-more-person--subtract 10 percent.

[e] Man and woman, 20-35 years; children as in 1974 plan.

[f] Costs represent averages for more detailed age groups represented in the 1964 plan.

The Census Bureau has faced similar problems in its attempts over the past few decades to define a standard of housing quality. Beginning with the first Census of Housing in 1940, data have been available on the size of housing units (number of rooms), and the Census Bureau has always used as one measure of acceptable housing the ratio of rooms to the number of household residents. The Bureau has also attempted to define standard versus substandard housing units on the basis of their plumbing facilities and structural condition. Complete private plumbing facilities in standard housing are defined to include piped hot and cold water, inside flush toilet, and a bathtub or shower for exclusive use of the occupants. Structural condition has been much harder to define. In the 1940 Census, units were classified on the basis of enumerator observation as "not needing major repairs" or as "needing major repairs." In 1950, the classification was changed to "not dilapidated" versus "dilapidated," while in 1960 three categories were recognized: "sound," "deteriorating," and "dilapidated." In 1970, the concept of structural condition was abandoned, because studies had shown that evaluation of housing condition by enumerators was very unreliable, even though some 40 percent of the households were personally interviewed. 4/

Nevertheless, the Decennial Census of Housing is one of the richest sources of information on the nation's housing stock. The 1970 Census, for example, included 49 items on housing, of which 16 were asked on a 100 percent or complete count basis and the remainder on very large systematic samples of households (20 percent, 15 percent, or 5 percent samples, depending on the question). Many of the components of the APHA standard are ascertained by the Census, such as number of rooms, number of bathrooms (also bedrooms), kitchen facilities, plumbing facilities, and heating equipment. Other items are included which could be candidates for a revised housing standard as well, such as passenger elevator for highrise apartments, air conditioning, and appliances such as washing machine and dryer. The Census also includes data on home value and rent, as well as utility expenses (the latter for renters only).

The sample size of the Census is more than adequate for determining cost levels for different size families. But the Census data do not include data on neighborhood conditions or availability of services, which are two of the components of the APHA standard, nor, since 1960, on the structural condition of the unit. Moreover, the data collected on items such as heating or plumbing equipment do not ascertain whether the facilities are in working order, an important consideration in determining whether a housing unit satisfies basic needs requirements. Finally, because a multitude of characteristics relating essentially to consumer preferences, such as wooded lot, and brick, wood, or stone construction, are not ascertained in the Census, the value and rent figures from the Census would reflect such characteristics as well as those incorporated in any standard of need, however defined. This is also true of utility expenses which, in any case, are reported only for renters. Hence, it may be difficult to cost out housing that meets only a basic set of needs.

Beginning in 1973, the Census Bureau has conducted for the Department of Housing and Urban Development an Annual Housing Survey (AHS). The national AHS sample comprises 76,000 housing units designed to be representative of important population groups, housing categories, and principal geographic sections of the country. (This sample size amounts to about 1/1,000 of urban households and 1/500 of rural households which are over-represented in the sample.) Also, about 140,000 units are being surveyed annually in one of three different groups of 20 metropolitan areas on a rotating basis.

The AHS includes data similar to the Census on financial and structural characteristics of housing units and their amenities, including number of rooms and bedrooms, kitchen facilities, plumbing facilities, heating equipment and fuel, basement, airconditioning, elevator, and major appliances. Data are also collected as in the Census on housing value and rent plus utility expenses which, beginning in 1974, are asked of homeowners as well as renters. In addition, the AHS ascertains how well facilities such as the heating, plumbing, and electrical systems actually work and, similarly, the dependability of services such as water supply, sewage disposal, and trash and garbage collection. Such household problems as leaky roofs and basements, holes in walls and ceilings, broken steps, and peeling paint and plaster are also identified.

The AHS also inquires into the environment of the neighborhood in which the housing unit is located. Factors considered include the presence of abandoned, vacant, or run-down buildings; heavy street traffic; and street or neighborhood crime. Households are also asked to judge the adequacy of their neighborhood public services. Finally, the AHS includes data on the size, composition, and income of the household residents themselves. The survey also directs questions specifically to recent movers, in an attempt to view the characteristics of their previous house and neighborhood in relation to their decision to move.

The Annual Housing Survey is a very comprehensive source of data which may be useful for analyzing housing needs and expenses for different kinds of families. The sample size appears more than adequate for this purpose. Problems of data reliability similar to those with the Census data will be present to some degree. For example, respondents' evaluations about trash in the street, street traffic, or neighborhood crime may vary considerably. However, since the survey is repeated annually by a trained interviewer staff and since the questionnaire items are very specific, more reliable data will probably be produced, particularly as experience is gained with respect to standards of need for housing.

Many problems of theory and value judgment remain. For one thing, except for heating and a very minimum degree of structural soundness, there is no physiological basis for a housing standard. For example, for some persons, keeping cool may be as essential to health and comfort as keeping warm, but there are no standards for this factor. There is no "need" for a room for each person in the same way that there is a need for a certain amount of vitamin C. Housing needs may be as much a function of the level of living of a society at a particular time and of what its people believe is needed as they are of objectively measurable needs. Hence, considerable subjectivity must inevitably enter a definition of standard housing. Furthermore, it is difficult to determine a cost level for standard housing that is not contaminated by clearly irrelevant characteristics. Also, cost may not be related to condition. Another problem is lack of adequate information on the availability of the supply of standard housing (generally, and to disadvantaged groups -- such as minorities, families with many children, and others facing discrimination in the marketplace). The Annual Housing Survey will provide a more complete and current source of data to aid in resolving these and other problems associated with defining a standard for housing to be used in measuring poverty. Like the Food Survey, however, the Housing Survey unfortunately concentrates on only one category of expenditure and cannot take account of how preferences modify "needs" as consumers trade off one category of living against another.

Other Needs

Very little work has been directed toward developing minimum standards for basic needs besides food and housing, such as clothing, transportation, and education. As noted before, the current Orshansky poverty measure multiplies food costs by a factor of three to develop a total income level.

The only systematic work by a Federal agency on standards for other needs has been in connection with the Bureau of Labor Statistics (BLS) family budgets, first issued in 1948. In 1967, the BLS developed three budget levels -- "lower," "intermediate," and "higher" -- for a four-person urban family with an employed husband aged 38, his nonworking wife, and two children aged 8 and 13, and for a retired couple with both husband and wife aged 65 or older. The intermediate budget was designed to represent a "modest but adequate" standard of living, and costs for this budget were then scaled to produce the other two budgets. The budgets are periodically updated for price changes in the broad components of the Consumer Price Index (CPI). The BLS also developed equivalence scales based on patterns of food expenditures, to use in determining budget costs for different kinds of families as percentages of the base four-person family. These equivalence scales were for different family types by age of head, number of persons in the family, and number and age of children.

None of the BLS budgets, including the lower one, was intended to be an absolute standard of need, much less a poverty standard. They are not based on minimum quantities or prices of necessary goods and services, but rather are descriptive of relative levels of living. 5/ They apply to the family of a year-round full-time worker with 15 years of work experience. In Autumn 1974, the lower BLS budget for a four-person family was $9,198 or more than 80 percent higher than the 1974 weighted average nonfarm poverty threshold of $5,038. The Orshansky poverty matrix was based on the Department of Agriculture's economy food plan. The BLS budgets use the low, intermediate, or liberal cost food plans.

BLS techniques have technical limitations and do not result in objectively derived standards. BLS budgets use the various food plans for food-at-home expenditures; they incorporate the aforementioned APHA housing standards; they include utility company estimates of the electricity and utility services required for specified appliances; they adjust heating (but not cooling) fuel requirements for differences in climate; and they include insurance costs for major medical illnesses. Since objectively defined standards are not available for such components of the budgets as clothing, house furnishings, transportation, personal care, household operation, reading, recreation, tobacco, education, gifts and contributions, and miscellaneous expenses including work expenses and taxes, the BLS used a technique that tried to rely on consumer purchases as the basis for these budgets. 6/

The BLS family budgets involve a multitude of subjective decisions by the budget makers. They must decide which family types and manners and levels of living to represent; which data sources are most appropriate for deriving the budget quantities; and most importantly, how to interpret actual family consumption in terms of standards. The end result is a mixture of generally accepted standards, quasi-standards, and preferences. The incorporation of consumption data for needs other than food and shelter is especially troublesome, because the notions of standards and basic needs have been lost and the methodology for quantifying consumer interest in a commodity is not satisfactory.

It is clear from the BLS experience with family budgets that developing minimum standards of need for items other than food and perhaps housing is a very difficult business. To develop a complete poverty budget, not only would additional data about consumption patterns be needed, but also data on society's beliefs about the need for such items as recreation or household furnishings. The judgment of professionals in the field might also come into play. Even then the resulting standards for the various items could not be described as being objectively derived or scientifically rigorous.

The Department of Agriculture publishes some clothing budgets. 7/ These are not based on prior standards as are the food plans, but on average family food spending levels of the USDA food plans, modified to accommodate comparable levels of living in all areas.

Standards Based on Actual Consumption Data

The 1960-61 Consumer Expenditure Survey, a joint effort by the BLS and the Department of Agriculture, resulted in the acquisition of almost 14,000 usable questionnaires, representing a 1/4,000 sample of households. The BLS collected data from households and from nonfarm residents in rural portions of metropolitan areas; the USDA collected data from rural households outside metro areas and from farm operators inside these areas. The only groups excluded were the institutional population and on-post military personnel.

Each household in the sample was interviewed once in 1961 or 1962 and asked to recall expenditures for such items as automobiles and appliances for the preceding year and for food and related items for the preceding week. The levels of expenditures requested were very complete. The 1960-61 CES also obtained an inventory of major durable goods and property owned at the beginning of the reference year as well as information on financial assets and liabilities and detailed sources of income for the preceding year.

Clearly, the CES is a very detailed source of information on consumption patterns of U.S. families. The sample size of the 1960-61 survey is adequate for analysis of differing patterns among broad family size and composition categories, although it is admittedly weak for simultaneously considering a number of factors such as age, income, work status, family size and locality. There is evidence that the reliability of the expenditure data collected varies with the importance and cost of the item, and the frequency of purchase since expenditures are more readily and accurately recalled for expensive items such as appliances than for small items such as cleaning and laundry supplies.

The BLS and the Census Bureau are currently processing a new Consumer Expenditure Survey. The 1972-73 CES is similar in content to previous surveys, although the data collection methods radically depart from previous procedures. The sample size has also been enlarged, and coverage has been extended to all families, urban and rural, farm and nonfarm, in a "single" survey. This has obviated the need for a joint BLS-USDA effort. However, the new procedure makes it more difficult to associate all income and expenditure items in a single year for a single family.

The "single" 1972-73 CES is actually two related but separate surveys, the Quarterly Survey and the Diary Survey. In the Quarterly Survey, a total of 20,000 families were interviewed, 10,000 in each year, for a 1/3,000 sample of the universe in all. Each family was interviewed five times over a 15-month period beginning in January of 1972 or 1973. In the Diary Survey, a total of about 20,000 additional families were interviewed, 10,000 in each year, and each family was asked to complete a two-week diary of all expenditures in those two weeks. Interviewing was spread fairly evenly over the two years to incorporate seasonal variations. Two surveys were used to avoid the recall problem mentioned earlier. The Quarterly Survey was designed to collect information on larger and more easily recalled expenditures, while the Diary Survey was designed to gather information on smaller and less easily recalled expenditures. Also, the Diary Survey, unlike the Quarterly Survey, recorded expenditures daily.

Specifically, the Quarterly Survey obtained expenditures for major appliances, real estate, motor vehicles, and other expensive or infrequently purchased items on a twelve-month recall basis; expenditures for relatively expensive items such as furniture and small kitchen appliances on a six-month recall basis; and expenditures on frequently purchased or relatively inexpensive items such as clothing and utilities on a quarterly basis. Global estimates for food and beverage expenditures were also obtained in quarters two through five. Furthermore, the Quarterly Survey obtained an inventory of durable goods and property assets, detailed information on financial assets and liabilities, and detailed information on annual income by type.

The Diary Survey, in contrast, focused on expenditures for small, frequently purchased items (although respondents were asked to record all purchases to prevent any confusion about what items should be included). The major expenditure components for which the Diary Survey was designed were food, household supplies, personal care products, and non-prescription drugs. As in the Quarterly Survey, the information was requested in extremely great detail. For example, respondents were requested to specify cuts of meat, kinds of milk, types of flour, net weights or volumes, and conditions of foods (e.g., fresh, frozen, canned, dried, or packaged). More than 1,700 different codes were developed to classify the expenditures for analysis. The Diary Survey also obtained demographic and socio-economic characteristics of the consumer unit as did the Quarterly and the 1960-61 CES. The Diary Survey also collected annual income data, but in less detail than in the Quarterly.

Only the preliminary results have been published from the Diary Survey. The new procedures used should have improved the completeness and accuracy of each type of expenditure reporting, but it may now be more difficult to relate expenditures for one category with those for another. Moreover, the enlarged sample size for each portion should permit more reliable analyses of spending patterns for different types and income levels of families.

However, estimates of family characteristics equivalences are limited. It is particularly important to note that the two samples from the Diary and Quarterly Surveys cannot simply be combined to make a total sample of 40,000 over the two years, since neither survey obtained complete information on all expenditures. Complicated statistical matching procedures would be required to impute missing data on one of the surveys using the information on the other. Technical Paper VIII describes the 1972-73 CES in more detail and evaluates its usefulness for poverty measurement.

Only a few other data sources are available for developing standards and family characteristics equivalences for other basic needs. One is the 1973 Farm Family Living Expenditures Survey conducted by the USDA, which obtained detailed expenditure data similar to that obtained by the CES, from 2,500 families interviewed at three points during the year. Although the 1972-73 CES included the farm population, the 1973 USDA survey represented a larger sample, about 1/1,000, permitting a more reliable analysis of this group. Comparison with data from a previous 1955 Farm Family Survey shows substantial changes in spending patterns, suggesting that a poverty standard explicitly identifying one or more categories of need would look quite different in 1973 when compared to 1955.

In 1969-1970, the Department of Transportation conducted a Nationwide Personal Transportation Study, which obtained extensive information from approximately 6,000 households (1/10,000 of the universe) on patterns of automobile use for trips to work, to school, for shopping, and other travel. These data could possibly be used to analyze standards of need for transportation based on household size, number of earners, school children, availability of public transportation, and other factors.

Geographic Equivalences

Whether basic needs vary by geographic residence and, if so, whether such variations should be incorporated into a measure of poverty is an important issue in the development of new or revised poverty measures. The current Orshansky measure does not recognize any geographic differences of need, but does differentiate income differences between farm and nonfarm households.

Geographic equivalences pose troubling theoretical and judgmental problems, just as do family characteristics equivalences. As discussed in Chapter II, geographic variations in expenditures can be present as a result of many factors including actual physical differences in need due to climate or other factors, differences in preferences, availability of goods, variation in prices, or long-standing differences in income and prevailing usage levels. Attempting to establish that geographic price differences are present to a significant degree involves a number of analytical decisions. For example, one must decide which kinds of geographic areas are most valid to examine as illustrating the range of prices and costs; whether to cost out the same "market basket" for each area; or whether to vary the contents because of physical factors or preference differences.

Unfortunately, the extent and nature of geographic differences in cost of living cannot be determined at the present time, because available data are inadequate. The same criteria (validity, reliability, and frequency of collection) which were outlined in the previous section for evaluating data sources on family characteristics equivalences apply to sources on geographic equivalences. It appears that the criterion of reliability -- or sample size -- is especially critical for geographic differences, because by definition geographic analysis must be for populations smaller than the national total.

Because available data are not adequate to determine geographic differences in needs, it is not surprising that no generally accepted standards of need have yet been developed that include geographic equivalences. The BLS family budgets described previously have been costed out in 44 different metropolitan and nonmetropolitan areas (all of which are urban, however) for the four regions of the U.S. The cost for the lower budget for a family of four in the Spring of 1970 varied considerably from a low of $6,150 in the nonmetropolitan urban areas of the South to highs of $8,597 in Honolulu, Hawaii and $10,788 in Anchorage, Alaska. However, the places for which budgets are priced do not represent accurately or adequately the range of prices within regions or other areas; nor were they so chosen in the first place. The budget components themselves recognize some geographic differences, both physical and preferential. Heating fuel and clothing requirements vary according to climatic differences; transportation requirements vary according to size of place and the availability of mass transportation; and the market basket for each region assumes some regional differences in food consumption practices such as the preference for pork rather than beef in the South. Taxes are also varied to reflect state and local tax regulations. Given all of the judgments involved in the derivation of the budgets, however, these differences cannot be accepted as differences of need or cost-of-living expenses.

The only other existing standards that incorporate geographic variations are the AFDC eligibility standards set by each of the states. Each state determines a standard of need which it uses to identify families with dependent children who are eligible for program benefits. These standards vary considerably by state. For example, as of July 1974, $184 was allotted per month ($2,208 annually) for a family of four in North Carolina, while $456 per month ($5,472 annually) was allotted for a family of four in Wisconsin. Not all states pay their full needs standards to recipients. The standards may appear at first glance to represent a basis for determining geographic equivalences, particularly as a number of similarities in concept and method of determination are present among the states. However, there are also significant dissimilarities in concept, methodology, and as noted above, in dollar level. The differences are so great that the standards can be viewed only as guidelines for what each state believes is feasible for spending on its welfare program.

Much remains to be done in developing geographic equivalences for poverty measurement that can be generally accepted. Generally, the data sources available are the same as those for family characteristics equivalences and standards of need; namely, the 1960 and 1970 Decennial Censuses of Housing, the Annual Housing Survey for housing and utility costs and needs, the 1960-61 and 1972-73 Consumer Expenditure Surveys for all items of consumption, the 1955 and 1973 Farm Family Living Expenditure Surveys for farm household consumption, the 1969-70 Nationwide Personal Transportation Study for transportation needs, and the various Household Food Consumption Surveys.

None of these existing data sources is of sufficient size and quality to support the kind of detailed analysis that would be required to establish valid geographic equivalences. Such an analysis would have to examine various types of geographic areas to spot major differences and analyze all major expenditure categories for the several types of families and income levels within each area. Existing data sources are inadequate to support a geographic analysis by family type with additional categorization by income level and expenditure class.

Updating the Standards

An independent re-derivation of the current poverty thresholds each year is impractical. Some means of updating these thresholds each year is necessary to take account of changing prices. Originally, the Social Security Administration revised the Orshansky poverty measure by the annual increment in the economy food budget. In 1969, the Consumer Price Index (CPI) was adopted for the annual adjustment.

The Consumer Price Index is a monthly statistical measure of the average change in prices of goods and services purchased by urban wage and clerical workers. This series has been part of an on-going program by the Bureau of Labor Statistics since the early twentieth century. Although over the years there have been many changes in scope, coverage, frequency, and publication format, the index has remained a measure of change in the cost of a fixed market basket of goods and services. This section describes the construction of the current series, which is based on revisions introduced in January 1964. The BLS is currently undertaking a set of revisions, to be instituted in April 1977, which are based partially on the 1972-73 Consumer Expenditure Survey.

The CPI is a weighted aggregative index number with fixed annual weights. The weights represent the expenditures (price multiplied by quantity) of items purchased and are commonly referred to as the "market basket" of goods and services. The quantities remain constant, except for revisions which occur about every ten years. Generally, those items are repriced at regular intervals, and the aggregate cost of the market basket is compared from one period to another or to the cost in a selected base period.

The market basket of quantities represents all the goods and services purchased: food, clothing, shelter, transportation, fuel, drugs, dentist and doctor fees, recreation, furniture, appliances, haircuts, etc. All taxes on the purchase of commodities, i.e., sales, excise, and real estate taxes, are included, but income and other personal taxes are not. For the current CPI, the composition of the market basket was determined on the basis of expenditure patterns reported in the Consumer Expenditure Survey conducted in 1960-61. Only the responses of urban consumer units with at least one wage earner or clerical worker were used, and the sample included 4,860 such families.

The expenditure information collected in this survey was extremely detailed. Over 1,800 items were recorded, although the impossibility of pricing all items individually caused a sample of about 400 items to be selected for the market basket. After classifying the detailed items into 52 broad expenditure classes representing groupings of items serving similar human needs, individual items were selected randomly with a probability directly proportional to their importance in the budget.

Prices for the CPI are obtained in 56 representative urban areas (stratified by region and size class) by personal visit to a representative sample of nearly 18,000 stores and service establishments where wage and clerical workers buy goods and services. This includes chain stores, independent grocery, department, and specialty stores, and repair and service shops in both the central city and suburbs. Where possible, these outlets are generally represented by their sales volume. Rental rates are obtained from about 40,000 tenants twice a year. The BLS uses mail questionnaires to obtain data on streetcar and bus fares, newspaper prices, and prices of certain other items which do not require a personal visit. For a number of items such as home purchase, college tuition, and magazine subscription, data collected by other government agencies or private organizations are used.

Prices are collected in each of the 56 urban locations at intervals ranging from once a month to once every three months, with a few items surveyed semiannually or annually. Because food prices change frequently and foods are a significant part of total spending, food pricing is conducted every month in each urban area. Except for food items, the number of price quotations obtained in each city is quite small (usually 4 and at most 8), while the number of food stores visited ranges from 10 to a maximum of 80 (the latter in New York City). At the national level, however, this still represents a significant number of quotations.

The BLS attempts to ensure that the index reflects only changes in prices and not in quantity or quality. The BLS price reporters are, consequently, provided with detailed specifications for each item to be priced, such as canned Bartlett pears or home permanent refills. Moreover, the reporters are instructed to price exactly the same item in the same stores each time. When it is necessary to substitute for a specified item, its price is carefully spliced into the index to avoid affecting the overall index.

As a general index for updating the poverty thresholds or for other purposes, the Consumer Price Index has a number of limitations. While it represents the average movement of prices for a fixed market basket of goods and services, it does not necessarily represent the change in the actual costs of day-to-day living of urban wage and clerical workers. As prices change, families may adjust their consumption patterns, substituting less costly items or performing services such as home repairs themselves. The change in relative prices also causes a change in purchases. These shifts in consumption patterns are not captured by the CPI, because the market basket remains unchanged.

Second, the CPI cannot be used to study intercity differences in either prices or living costs. Although it is published separately for 23 of the 56 urban areas, the CPI measures only time-to-time price change in a given area.

A feature of the CPI which is sometimes cited as a limitation from the standpoint of its use as a means of updating the poverty measure is the fact that it is based on expenses of one particular group of consumers, urban wage and clerical workers. The experience of this group is not necessarily representative of the price changes faced by the low-income population. The expenditure pattern of poor families is in general more heavily weighted to necessities such as food and shelter. Also, the items purchased to satisfy these needs may be of lower quality or may not be the same as those purchased by urban wage and clerical workers. Moreover, low-income families, frequently confined to the central city without adequate transportation, do not generally shop in the same stores as suburban families with their own automobiles.

Data for Measuring Resources

The data most frequently used to determine resources for comparison with needs are the previous year's income data from the Decennial Census or the Current Population Survey. Embodied in the income concept employed in these data series are several judgments which affect the concept's usefulness for measuring resources. A more comprehensive comparison of the differences in income definitions and its components is found in Technical Paper IX, Inventory of Federal Data Bases Related to the Measurement of Poverty.

First, the Census series restrict the definition of income to cash income, excluding in-kind income such as food stamp bonuses, the imputed rental value of a home, or special benefits to workers such as subsidized health insurance. Second, the Census concept of cash income includes only regular sources of income excluding lump-sum income such as capital gains, prize money, and in general any one-time receipts. Third, the Census concept measures income over a year (the calendar year just prior to the Census or CPS survey date), excluding any data on income in previous years and any data on income variations within that year. The Census concept includes both private and public sources of money income, including such transfer payments as Social Security, Veterans benefits, and AFDC payments. It asks for all sources before taxes or other payroll deductions.

Base Data: the Decennial Census

The Decennial Census of Population and Housing is by design the most comprehensive of all government statistical series in terms of population coverage. A complete (100 percent) count of the population in 50 states, the District of Columbia, Puerto Rico, and the U.S. possessions is attempted to acquire basic demographic characteristics (age, sex, race, household relationship, marital status) and dwelling unit attributes. Also, such other characteristics as income, education, occupation, and marital history are collected by taking very large systematic samples of the population (25 percent in 1960 and 20 percent, 15 percent, or 5 percent in 1970, depending on the questions asked). The only population group excluded from the census is that of foreign citizens temporarily visiting or traveling in the U.S. or living on the premises of an embassy, legation, etc. Resident aliens are enumerated, as are U.S. citizens abroad for an extended period.

Each person enumerated is counted as an inhabitant of his or her usual place of abode. Also, persons temporarily away from their usual place of residence (e.g., in a hospital or on vacation) are allocated to their homes. Certain groups are allocated to a place of residence according to special rules. For instance, college students, inmates of institutions, and Armed Forces personnel in barracks or on harbored vessels are enumerated as inhabitants of the place where they currently reside; they are not enumerated as inhabitants of their families' abodes. 8/ This treatment may overestimate poverty among unrelated individuals in some areas. For example, the poverty status of college students living in dormitories is determined by their families' income, but the poverty status of those living in non-dormitory housing is determined by their own income. To the extent that students draw on their families' resources, their own income may not be a good indicator of their poverty status.

The very large sample size for the household composition and income information (100 percent for the former and 20 percent for the latter, in 1970) suggests that estimates of the currently defined poverty population are reliable for narrowly defined distributions of characteristics and for fairly small geographic areas. More reliable estimates might still be desired, however, for smaller geographic areas such as many counties, urban places, or school districts.

Aside from the fact that it is conducted only once every ten years, there are other problems in obtaining complete coverage, including the unskilled nature of the Census field staff (most interviews and coders are hired on a short-term, part-time basis), the mobility and lack of permanent residence of a significant portion of the population, and some persons' resistance to being enumerated. Obviously, these problems are compounded by the complexities of enumerating and processing results for over 200 million individuals.

About 2.5 percent of the population is missed in the Census enumeration, constituting the so-called "undercount." The undercount varies systematically by age, race, and sex, with black males aged 25 to 34 being most frequently overlooked. For black males aged 25 to 34, the undercount is as high as 18.5 percent of the population. 9/ The undercount is an especially serious problem when measuring poverty because the groups with the greatest disadvantages are often the groups with the highest undercounts.

There are also problems in achieving full coverage of individual population characteristics, as a significant number of enumerated persons fail either to report certain characteristics or to report them correctly. The Census Bureau has developed sophisticated editing procedures for imputing missing data for household and person records. These procedures attempt to allocate the "best" response for a person based on other information on record, or, if this is not possible, based on answers furnished by other persons living in the same area and possessing similar characteristics. Use of these procedures has improved the Census series, although all editing procedures incorporate some bias.

Of course, the most important variable (from the point of view of poverty measurement) affected by misreporting is family and persons' income. Each Decennial Census obtains information on income for the calendar year preceding the Census date (1969 for the 1970 census). All persons 14 years or older are asked to report regular money income of six types:

(1) Wages or salary income before deductions for taxes, pensions, union dues, etc.

(2) Net money income from self-employment in a business, professional practice, or partnership.

(3) Net money income from self-employment on a farm.

(4) Social Security or Railroad Retirement Act income including Medicare premiums but not reimbursements for payments made by respondents for medical care covered by Medicare.

(5) Public assistance or welfare income.

(6) All other regular income including dividends, interest, estate income, net rental income, pensions, alimony, unemployment benefits, etc.

There are many problems associated with income reporting in the Census. For example, many persons rely on recall rather than on records of wages paid, bank interest, etc. Even persons checking their records may be uncertain of what is being asked. Also, it is sometimes difficult to acquire accurate information on family income because families in existence as of April 1 of the Census year are requested to report income for the previous year, even though some recent members might not have been part of the family in that year, or even though some members might have left before the Census date.

For all of these reasons, income data in the Census suffer considerably from underreporting and misreporting and require the most editing of all Census items. Even after editing, there is substantial underreporting, particularly from sources other than wage and salary income (especially public assistance and property income such as interest, dividends, and rent).

Current Population Survey

A number of sources are available for annually updating the Decennial Census income data. No one source is completely satisfactory, however, primarily because the sample size is too small to support state or smaller area estimates or because detail on household composition is limited or missing.

One commonly used data source for updating the Census is the Current Population Survey (CPS) conducted monthly by the Bureau of the Census to obtain figures on employment for the Bureau of Labor Statistics. The extensive information in the March Income Supplement, otherwise known as the Annual Demographic File, is available for annual updating of poverty counts.

The Current Population Survey closely resembles the Decennial Census in population coverage. However, unlike the Census, the CPS excludes inmates of institutions and Armed Forces personnel living on base if their families are not present. Also, the CPS excludes U.S. citizens living abroad or residents of Puerto Rico or of the U.S. possessions. Furthermore, household relationship definitions differ in one way. In the CPS, college students living away from home are enumerated as family members at their families' home rather than as unrelated individuals living in different areas. This is probably a more realistic treatment for the purpose of measuring poverty. 10/ The CPS also suffers the same handicap as the Census with respect to changes in family composition between the income year and the reporting period.

Income concepts in the CPS resemble those in the Census, except that in the latter there are fewer income types. For instance, as of March 1975, the CPS identified 11 income types while the Census identified only 6. Prior to March 1975, the CPS had divided "other income" into 3 categories so that it still included 2 more types than did the Census. In the CPS personal interviews by experienced enumerators reduce misconceptions, help respondents in checking their records, etc. However, about the same proportion of persons in the CPS as in the Census (12 to 16 percent) furnish incomplete income data that must be corrected in the editing process. 11/ Income underreporting is also serious for certain income types as discussed later in the section on Correcting Cash Income.

The most important difference between the Census and CPS from the standpoint of comprehensively measuring poverty is that data in the CPS is collected from a systematic clustered sample limited to 45,000 interviewed households (about 130,000 persons) in the 50 states and the District of Columbia. The CPS incurs a substantial degree of sampling error, even for regional estimates. This is particularly so for poverty estimates, because the CPS is designed to be representative of the entire household population and not only low-income groups. Beginning with the March 1976 file, the sample size will be increased to about 55,000 interviewed households. However, even with this larger sample, the CPS is still not designed to provide valid estimates of poverty at the state level.

Administrative Records

Other sources of annual income data for states and smaller areas based on administrative records rather than surveys are available. For instance, the Bureau of Economic Analysis (BEA), Department of Commerce, estimates per-capita personal income for the nation, states, and counties on an annual basis. The BEA income concept is much more comprehensive than the Census or CPS. 12/ It includes, for example, several sources of in-kind income. However, the direct usefulness of the BEA series for measurement of poverty is severely limited by the absence of any data on family size or composition or data permitting determination of quantities besides average income in a geographic area. Also, because BEA obtains its income figures from business establishments and administrative records, obtaining estimates of family and per-capita personal income is complicated, since income earned by workers living in jurisdictions other than those in which they work must be properly allocated to places of residence. For these reasons income distributions estimated by the BEA may be less reliable than aggregate or per-capita income estimates.

Problems also affect the usefulness of the annual Internal Revenue Service (IRS) Statistics of Income series. This series is based on a 1/300 sample of Federal income tax returns filed by single persons and married couples in the 50 states, the District of Columbia, and Puerto Rico. Persons who made under $600 of yearly non-self-employment income (under $1,200 if 65 or older) or under $400 of self-employment income are not required to file, although many of them file to obtain tax rebates. The master file contains a limited amount of information on all returns.

The IRS concept of adjusted gross income (AGI), before deductions and exemptions, differs in a number of ways from both the BEA series and the Census or CPS. For example, the AGI, like the CPS, excludes such income sources as wages in-kind. Unlike the CPS, however, the AGI excludes a large proportion of transfer income, such as Social Security and public assistance, and includes some capital gains. 13/

Moreover, for direct use in poverty measurement, the IRS data suffer from the fact that household and personal relationship data are not obtained and often cannot be inferred from the information reported on the tax forms. The inadequacy of such a procedure for poverty measurement purposes is suggested by the fact that married couples may file jointly or separately and that children or relatives will be included as dependents on the head's return only in certain situations. Also, persons wholly dependent on public transfers such as Veterans payments, AFDC, or Social Security are likely to be poor, but since their income is tax exempt they are not included in the IRS data base.

Finally, several agencies in HEW compile periodic data from administrative records for particular kinds of income received by participants in their respective transfer programs. For example, the Social Security Administration (SSA) provides quarterly data on earnings and industry of workers subject to social security payroll taxes up to the taxable limit of $14,100. Wages over the limit must then be estimated. Furthermore, no information on other income sources is contained in this series, nor are there data on household composition. Moreover, the SSA earnings series excludes all persons whose income comes from other than employment sources and, among employed workers, many Federal, state, and local government employees, workers covered under the Railroad Retirement Act, and person with insufficient earnings (mainly some self-employed persons, farm workers, and domestics). 14/

Other program statistics have similar drawbacks. The National Center for Social Statistics (NCSS) publishes monthly data by state on the number and amount of AFDC and General Assistance payments. The SSA publishes similar data on Social Security beneficiaries and on payments under the new Supplemental Security Income program for the aged and disabled, although these data are simple aggregates of payments by state and do not provide information on household relationships or on family income characteristics of recipients.

Since 1967, NCSS has conducted biennial surveys of AFDC case records, obtaining substantial information on household size and composition, family income, and many other Census-type variables. The 1973 AFDC Survey consists of about 32,000 records, representing about a 1 percent sample of case-worker records in the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. 15/ This sample, along with supplements, permits reliable estimates of welfare income in all but the smallest states. The sample is based on case records rather than on personal interviews; the information on other than welfare income, particularly on earnings, may be less reliable than survey data. In some cases the information may reflect the financial status of a family in one particular month, for example, when the family first applied for welfare, and thus not reflect any subsequent changes in the family's situation.

Unemployment Data

Some have suggested using unemployment data as a source of current data on poverty in small areas. In spite of a conceptual link between unemployment and poverty, the two populations are not identical.

Data at the national level (from the Current Population Survey) indicate a lack of overlap between the unemployed and the poor, as defined in official government statistics. Of 5.1 million poor family heads, only 450,000 (about 9 percent) were unemployed at the time of the survey in March 1975, while 643,000 poor family heads (about 12.6 percent) experienced unemployment during the previous year. This is because many poor adults are not in the labor force and are not counted as unemployed.

A view equating poverty and unemployment may stem from the 1930s, when the unemployed were mostly family breadwinners, and when more than 25 percent of the labor force was unemployed. Undoubtedly, there are instances today of poverty resulting from prolonged unemployment; for example, Detroit has been described by some writers as reminiscent of the Great Depression. For the vast majority of the labor force, however, the situation is quite different today, even in a comparatively deep recession such as that in 1975.

There are several reasons why the officially defined poverty and unemployment populations do not significantly overlap, stemming from a fundamental difference in purpose for measuring these populations. Basically, the poverty measure is used to isolate those who have inadequate income for their needs, while the unemployment measure is concerned with those who want to work but cannot find jobs; there is no reference to economic need or hardship, the heart of the poverty definition. More specifically, the measures differ for the following reasons: (1) periods of unemployment are cushioned by unemployment insurance and other special programs and earnings of other family members; (2) periods of unemployment are usually too short to cause a family's income to fall below the poverty line; (3) poverty is counted on an annual basis, while unemployment depends upon activity in a given week of the month; (4) poverty data relate to the economic situation of entire families (and unrelated individuals) while unemployment data relate to the employment status of individuals, regardless of their family situation; and (5) unemployment data excludes many of the poor who are not able to work, since those not in the labor force are excluded. These reasons are discussed more fully below.

First, many unemployed receive Unemployment Compensation. Under this program they may receive up to 40 percent of gross earnings, although there is considerable variation by state. In 1974 and 1975, unemployment insurance programs covered more than two-thirds of all jobless workers. Moreover, some unemployed workers in selected labor unions are also entitled to Supplemental Unemployment Benefits. For example, it was reported that during the first several months of layoffs, auto workers were receiving 95 percent of their previous take-home pay through a combination of Unemployment Compensation and Supplemental Unemployment Benefits.

BLS studies also show that nearly a third of the unemployed in families had another family member in the labor force working full time (usually a working wife). These women and, occasionally, children usually account for no more than a fourth of family income when both husband and wife are working. When added to Unemployment Compensation, however, these earnings help keep a family from falling below the poverty line.

Second, the unemployed tend to experience short terms of unemployment; the average length of a single spell of unemployment has been five to seven weeks. For the family to fall below the poverty line, a family head would have to be unemployed for a very long period of time to exhaust all possible benefits and have no other family earners. This rarely occurs, as is suggested by the fact that the 1974 median family income for 2.8 million unemployed family heads in March 1975 was $10,200. This was $4,600 less than that of employed workers but $3,500 more than that of persons not in the labor force. The poverty line for a four-person family averaged about $5,038 in 1974.

A third reason for the limited overlap of the poverty and unemployment populations is that poverty is counted on an annual basis, while unemployment depends on status during a fixed one-week reference period. A family would consequently have to be both unemployed and poor for an entire year to be counted. For reasons discussed above, it is doubtful that many families with working members would deplete their resources to the extent that the family's income would fall below the comparatively low threshold of the official poverty line.

Fourth, since unemployment data are for individuals only, they include many secondary earners in non-poor families. For example, anyone 16 years of age and over who is not disabled can be counted as unemployed, even if the family head and other family members are working. A special study in March 1975 showed that nearly three fourths of the unemployed were in families where the head had a full-time job. Another source revealed that, in the second quarter of 1975 when the unemployment rate was close to 9 percent, 5 million of the 8 million unemployed were not household heads, but rather wives, grown children, or other immediate relatives of the family head. On the other hand, poverty status is determined by family size as well as income. A family head may be employed and still be poor if his earnings are low and family size is large.

Fifth, unemployment is defined in a way to exclude persons most likely to be in the poverty population. The Department of Labor classifies anyone as unemployed if he or she had no work in the week of the interview, sought full-time or part-time work in the four weeks before the interview, or was temporarily laid off from work during that time and was available for work during the week of the interview. Those working are, of course, classified as employed. Those not working and not looking for work, however, are classified as "not in the labor force." This last classification includes the very population disproportionately represented in the poverty statistics: the aged, female heads of families, and the disabled. Although increasing Social Security payments and, to a lesser extent, AFDC have been responsible in recent years for pushing some persons with these characteristics above the poverty line, the aged and female-headed families are still disproportionately included among the officially poor. This Labor Department classification also excludes the unemployed who have given up looking for work and dropped out of the labor force -- a group disproportionately composed of blacks and women.

The Job Market and Wage Rates

The unreliability of unemployment data as an indicator of poverty also applies to sources of information relating to the labor market, sources of job availability, and prevailing wage rates.

Labor market information is not pinpointed to the needs of unemployed poor family heads or family members; it usually provides general information on job availability and does not specify the generally unskilled jobs for which the poor person is qualified. The nationwide system of state public employment services offices has a system of computerized job banks. Many of the listed jobs call for skills that the poor person does not possess. Some of the unskilled jobs may be unfilled because they offer unsatisfactory wages, working conditions, and fringe benefits.

Prevailing wage surveys obtain information on average hourly or weekly earnings for only a limited number of specific white-collar or blue-collar occupations in 82 areas of the country. These earnings are obtained for full-time weekly workers, exclude premium pay, and are not obtained for all industries. The major aim of the area wage survey program is to describe the level and movement of wages in the labor market. Relatively low weekly or hourly earnings for a particular individual do not necessarily indicate that, on an annual basis, family income is around or below the poverty level.

The preceding discussion establishes that there are no currently available substitutes for the income data in the CPS for national or regional estimates of poverty or for the Decennial Census for estimates at the level of states or smaller areas. The study mandated by section 822b of P.L. 93-380 will discuss some other statistical procedures which have recently been formulated to develop current state estimates of the number of families and children in poverty. These procedures result, however, in figures representing total counts and lacking detailed characteristics. A number of the data sources described can be used to correct the substantial underreporting occurring in the Census and the CPS.

Correcting Cash Income

The various administrative income series have more complete reporting by income types than do other surveys. For example, covered employers are obliged by law to report payroll tax information on earnings of employers to Social Security, and the law is backed by stiff penalties. In contrast, penalties for failure to cooperate with the Census or CPS enumeration are slight and rarely imposed.

Table 5 provides comparative data for personal income by type from the 1970 Census 20 percent sample, the March 1970 CPS, the 1969 IRS Statistics of Income, the 1969 SSA earnings series, the 1969 BEA personal

Table 5. Comparative Data on Personal Income by Source, Selected Major Government Statistical Series U.S., 1969

Income Source	1970 Census 20% Sample[a] bil. $ (1)	ratio to col. 8 (2)	March 1970 CPS[b] bil. $ (3)	ratio to col. 8 (4)	1969 IRS Statistics of Income[c] bil. $ (5)	1969 SSA Earnings Series[d] bil. $ (6)	1969 BEA Personal Income[e] bil. $ (7)	CPS Comparable Benchmark[f] bil. $ (8)
Wages and Salary	$ 499.4	1.019	$ 478.9	.977	$ 498.9	$ 455.6[g]	$ 509.0	$ 490.0
Self-employment:								
Nonfarm	47.9	.980	43.6	.892	44.1	48.5	50.5	48.9
Farm	8.7	.764	8.5	.659	3.6		16.4	12.9
(Subtotal Self-employment)	(56.6)	(.916)	(52.1)	(.843)	(47.4)	(48.5)	(66.9)	(61.8)
Other income:								
Social Security	22.2	.807	22.4	.815	N.A.	N.A.	33.0	27.5
Property (dividends, interest, net rental)	*	---	27.5	.424	38.0	N.A.	106.4	64.9
Public assistance	4.6	.667	5.0	.725	N.A.	N.A.	*	6.9
Public pensions, unemployment insurance, veterans' payments	*	---	11.1	.694	N.A.	N.A.	10.4[h]	16.0
All other	48.8	.535[i]	11.0	1.068	18.4	N.A.	49.2	10.3
(Subtotal Other income)	(75.6)	(.602)	(77.0)	(.613)	(56.4)	(-)	(199.0)	(125.6)
TOTAL	$ 631.6	.933	$ 608.0	.898	$ 603.0	$ 504.1	$ 774.9	$ 676.7

Note: N.A. (not available) means data for this income source not collected in this series.

* Means data for this income source not shown separately in this series but lumped with all other income.

[a] U.S. Bureau of the Census, Census of Population: 1970, Vol. 1, Chap. D, Detailed Characteristics, pt. 1, U.S. Summary, Table 257.

[b] U.S. Bureau of the Census, "Income in 1969 of Families and Persons in the United States," Current Population Reports, Series P-60, No. 75 (December 1970), Table 61.

[c] Internal Revenue Service, Statistics of Income--1969, Individual Income Tax Returns (1971), Table 1.3.

[d] U.S. Department of Health, Education, and Welfare, Social Security Administration, Social Security Bulletin, Annual Statistical Supplement (1969), Table 34.

[e] U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, Vol. 50, No. 7 (July 1970), Table 2.1.

[f] Estimated benchmarks using the same definitions as in the CPS, calculated from 1969 BEA data for earnings and property income and from 1969 HEW data for transfers. SOURCE: Memo from Mitsui Ono to Roger Herriot, U.S. Bureau of the Census (Washington, D.C., July 6, 1970). Note: Because the benchmarks are comparable to the CPS, which excludes most persons in group quarters, one would expect the census income ratios in column 2 to be higher than the CPS ratios in column 3.

[g] Includes estimated wages and salary income above the taxable limit.

[h] Includes unemployment insurance and veterans' payments only. Public pension income is included with all other income.

[i] Ratio is calculated to the total of property, public pension, and all other income in column 8 ($91.2 billion).

income estimates, and benchmarks from the BEA and HEW programs which use definitions comparable to those in the CPS. Compared to the benchmark, Census and CPS clearly obtain very acceptable reporting of wage and salary income and reasonably good reporting of self-employment income, although other items are substantially underreported. Thus, Census obtains only 67 percent of public assistance income, and the CPS obtains only 73 percent. Only 42 percent of property income (dividends, interest, net rental) is obtained from the CPS.

Procedures developed for correcting income reported in the CPS on an aggregate basis could be applied to the Census as well, based on comparison with administrative sources such as the IRS and SSA series. The Treasury Department and HEW are also attempting to derive an alternative methodology for improving CPS income data which correct income at the individual or micro level. 16/ This micro methodology still does not produce reliable intercensal poverty estimates for states or smaller areas.

Adding Other Sources of Income

As stated before, the Census (and CPS) concept of income is limited to regular cash receipts. The concept excludes in-kind benefits such as food stamps, excludes non-regular sources of income such as prize money, and excludes any income value that might be attributed to non-financial assets such as homes. On the other hand, it includes Federal and state personal income and Social Security payroll taxes.

If the valuation issues raised in Chapter II can be resolved, it is still necessary to determine whether data are currently available to permit expanding the concept of income beyond regular cash receipts. Although it is doubtful that such data are currently available, they might be in the future. The following discussion considers ways in which in-kind income and the value of assets present difficult problems in data collection. Obtaining information on lump-sum income to add to gross income and on taxes to subtract from gross income is relatively straightforward, although not devoid of problems.

In-Kind Income

Food stamps are of particular interest among the various types of in-kind income. Beginning in 1972, the CPS included a supplement on receipt of food stamps and other transfer benefits during the preceding month and the preceding year. The August 1974 CPS supplement estimated that 3,489,000 households including 11,680,000 persons received food stamps in July 1974. The most recent food stamp supplement was administered in December 1975. The data have several drawbacks, the most important of which is that they underestimate the number of recipients. Compared to USDA monthly figures, the 1974 CPS supplement estimated only 80 percent of the total number of recipients. Moreover, the food stamp supplements, like the March CPS, provide relatively unreliable estimates at or below the state level, since they are based on a fairly small sample size.

Data from the Panel Study of Income Dynamics (otherwise known as the Michigan Longitudinal Survey) on food stamp recipients by year from 1968-1974 appear to be somewhat closer to USDA counts than the CPS supplements. The Panel Study is a continuing longitudinal survey of about 5,000 families that began in 1968 and has been repeated each year since then. Originally sponsored by the Office of Economic Opportunity, it is now sponsored by HEW, and is actually conducted by the Survey Research Center of the University of Michigan. The Panel Study includes data on several other sources of in-kind income such as the value of food produced at home, free clothing or food and free medical care through Medicaid or other sources. Certain uses of the data are difficult, however, because of the sample size of around 5,000 families. Almost half of the sample comprises families with incomes below the 1966 poverty level. It overrepresents the low-income population by about five to two, but still produces only a 1/8,000 sample of this universe, while providing a 1/12,000 sample of the remainder of the population. Over time, the lack of representativeness becomes more and more limiting.

In November 1973 the Department of Agriculture commissioned a special survey of about 7,200 households certified as eligible to participate in either the food stamp or food commodity distribution program. The survey, carried out in early 1974 by the Chilton Research Service, included information on other in-kind benefits such as subsidized housing, special food programs for school children and pregnant women, and Medicare and Medicaid benefits. The survey size was initially small, representing about 1/700 of the combined program universe, and suffered from considerable nonresponse (the aggregate response rate was 63 percent). Moreover, there are indications that many respondents were unaware of several programs in which they participated, e.g., special school milk programs for their children. Thus, the extent of in-kind benefits may again have been underestimated. 17/

Consumption or expenditure surveys such as the 1960-61 and 1972-73 CES have collected some data on in-kind income on a one-time basis -- the most commonly collected data being the estimated value of food produced at home and food stamp benefits. The BEA personal income series also includes several sources of in-kind income, including such private sources as wages in-kind and the value of bank services, as well as some public sources. All these data sources suffer from such problems as small sample size for subnational estimates and lack of periodicity in the case of the expenditure surveys.

In general, except for food stamps, very little data have been collected on in-kind sources of income. Moreover, the data which have been collected reflect considerable underreporting, have been obtained in an inconsistent fashion, and indicate respondent confusion about actual receipt of in-kind income. This suggests that comparisons among the different surveys will be complicated and that correction of the survey data would require combining them with data obtained from administrative records. The Survey of Income and Education -- mandated by Section 822a of P.L. 93-380 --

will provide information on receipt of food stamps, Medicare, Medicaid, and public housing, although reporting problems will arise again.

Value of Assets

Attempting to add a value for assets to income, particularly for non-cash assets such as property, presents a formidable problem. Even if all of the knotty judgmental issues such as the appropriate time period over which to amortize assets could be resolved, there would still be problems in obtaining reliable data about assets.

The 1970 Decennial Census contains data on the current market value of owner-occupied homes and on the presence of durable goods such as automobiles, household appliances, and TVs, as well as on household ownership of a second (vacation) home. No data were collected on financial assets such as bank accounts, stocks, or bonds, and the only asset in the Census for which a dollar figure is determined is an owner-occupied home. Even here, the data are not complete, because the only homeowners asked to report a value are those living in a single-family house which is not on a farm and which is not used for a business or profession. Obviously, this excludes owners of apartments, mobile homes, etc. Moreover, the value reported may not be entirely realistic, since it is the respondent's own estimate of the current worth of his home.

The CPS does not collect any asset data, but since 1973 the Annual Housing Survey has included questions similar to those in the 1970 Census on home value, presence of automobiles and household appliances, and ownership of a second home. For example, the AHS (beginning with the 1974 survey) represents 1/1,000 of urban households and 1/500 of rural households, while the CPS represents only about 1/1,300 of the population. Asset data in the AHS suffer from the same limitations as those in the Census, however, since the universe is restricted for the home value question and dollar values are absent for the other items.

The 1972-73 Consumer Expenditure Survey and the 1973 Farm Family Living Expenditure Survey both obtained extensive data on property holdings (including purchase price as well as current market value of the family's home, other real property, and property improvements) and on durable goods and vehicles (including an inventory of items already owned plus those purchased during the survey year). Neither of these surveys is conducted very often (the latest CES was in 1960-61 and the latest Farm Family Survey was in 1955), and both have small sample sizes. Moreover, the Farm Family Living Expenditure Study provides meager information on financial assets. Information on such assets is requested in detail in the CES, but since responses to such questions are frequently unreliable, the usefulness of the CES asset data remains to be assessed.

The 1966-67 Survey of Economic Opportunity (SEO) also attempted to obtain complete assets information. The SEO, in which approximately 30,000 households were interviewed in 1966 and again in 1967, was designed to supplement information regularly collected in the CPS March Income Supplement relating to economic well-being. Thus, the SEO included data on dimensions of economic status such as housing, assets, and liabilities that were not usually obtained between censuses. The survey attempted to overrepresent low-income families. This was done by selecting about 12,000 cases in nonwhite areas assumed to be heavily low-income and by selecting the remaining cases to represent the entire population. The resulting sample represented about 1/500 of the nonwhite universe and 1/3,500 of the white universe. 18/

The list of assets covered in the SEO is unusually complete: market value of the home, other real estate, own business or farm; money in banks; current value of government bonds; current value of stocks, bonds, or other private industry investments; personal loans to others, including mortgages and very small loans; number of cars and trucks and their value; and value of all other assets including airplanes, boats, oil royalties, patents, etc., but excluding personal belongings such as jewelry or furniture. Data on the following kinds of debts were also obtained: money owed for a car or truck; money owed to stores (excluding regular 30-day charge accounts); money owed to companies for gasoline, utilities, etc.; money owed for medical care; money owed to banks; and all other debts owed to other persons or lenders. The asset data in the SEO are less than reliable, and are not identified by state but only by region and for the 12 largest SMSAs. The sample size is too small for reliable state estimates. The heavy overrepresentation of nonwhite households cannot contribute to reliable estimates, since nonwhites comprise only about 10 percent of the population.

One other source of asset data, the 1963-64 Survey of Financial Characteristics of Consumers, is unsuitable for poverty measurement. Conducted by the Bureau of the Census for the Board of Governors of the Federal Reserve System, the survey is inadequate as a source of poverty data both because of its very small sample size (2,557 completed interviews in all) and because it was purposely designed to overrepresent the segments of the population that were expected to have sizable amounts of wealth. Thus, 464 families with 1962 incomes of $25,000 or more were included for a sampling rate of about 1/6,000, while 757 families with incomes below $5,000 were included for a sampling rate of less than 1/30,000. Also, despite intensive efforts to obtain complete and reliable information, comparison of the survey results with administrative totals indicates substantial underreporting. Thus, the survey obtained only 70 percent of the value of corporate stock, 60 percent of the value of installment debt, 50 percent of savings accounts, 47 percent of U.S. Government securities, and 40 percent of state and local government securities. Estimates of the value of corporate securities other than stock, mortgage debt, and noninstallment debt were much better (90 percent or higher in each case), and underreporting appeared much more prevalent among high-income than lower-income groups. 19/

The Survey of Income and Education will provide limited information on assets. It will include values of owned homes (and outstanding mortgages on such homes) and the amounts of certain liquid assets where total values of these assets are below $5,000 for any household.

This review suggests, then, that reliable asset data are hard to obtain. Attempts at acquiring such data are discouraged by the length of the questionnaire required to ensure completeness and accuracy of the information, and by the absence of any agreement on how to incorporate the value of assets into a measure of total resources that can be compared with needs standards. The general absence of reliable asset data is particularly unfortunate because eligibility criteria in many programs include a limit on asset holdings. For example, eligibility criteria of the food stamps program includes consideration of financial assets and other than personally needed property, but excludes such assets as a home and durable goods, the latter items being considered essential for living.

Different Accounting Periods

The accounting period problem is that of choosing an appropriate time span for measuring resources to determine poverty status. The time span affects the status obtained. For example, when the Census and CPS measures income for the calendar year preceding the date of enumeration, it overlooks income fluctuations within the year and ignores patterns of income receipt over periods longer than a year.

Data from Income Maintenance Experiments conducted in Seattle, Washington; Denver, Colorado; and Gary, Indiana are a source of information on monthly income trends. 20/ These experiments attempt to study the work responses and other behavioral changes among families receiving a guaranteed monthly income payment, and the work responses and behavioral changes among a set of control families. The sample sizes in these experiments are small, ranging from about 2,700 families in Denver to about 1,600 in Gary, and are of course not intended to be nationally representative. The samples were designed to overselect low-income households in their respective areas, with female-headed families making up the bulk of the Gary sample. Thus, the data are not directly useful for developing nationwide measures of short-term poverty, although they (and the evidence from the New Jersey experiment) do suggest that there are substantial within-year income changes among the poor.

Data from the Panel Study of Income Dynamics, which has followed the same 5,000 families for more than five years, indicate that the "hard-core" poverty population -- that is, families and persons with persistently low incomes -- is both smaller than the total poverty population at any one point in time and markedly different in composition. 21/

The Panel Study is currently the only source of national data on family income histories. The Income Maintenance Experiments, which follow families for at least three to five years, are also a source of across-year trends for particular sites.

NOTES TO CHAPTER III

1. National Academy of Sciences-National Research Council, *Recommended Dietary Allowances 1974*, 8th ed. (1974).

2. For a description of the new low-cost, moderate-cost, and liberal food plans, see Betty Peterkin, "USDA Family Food Plans, 1974," paper presented at the 1975 National Agricultural Outlook Conference, Washington, D.C., December 12, 1974. The new thrifty food plan is described in U.S. Department of Agriculture, Agricultural Research Service, Consumer and Food Economics Institute, *The Thrifty Food Plan* (September 1975). The cost for this plan is estimated independently based on a market basket of foods, and not as a percentage of the cost for the low-cost plan, as was the procedure between 1968 and July 1975. The thrifty plan costs work out to about 77 percent of the new low-cost plan on the average, but the relationship varies depending on the sex and age of the individuals and the time of the estimate.

3. Mark Sherwood, *Bureau of Labor Statistics (BLS) Family Budgets Program*, Technical Paper IV to this report.

4. U.S. Bureau of the Census, *Delineation of Problem Housing Areas*, Data Access Description, No. 28 (May 1972).

5. U.S. Department of Labor, Bureau of Labor Statistics, *Handbook of Methods*, Ch. 9, "Family Budgets," BLS Bulletin 1711 (revised 1972), p. 70.

6. Basically, this technique consisted of locating the income class in which maximum income elasticity occurred for a given group of consumption items. The average numbers and kinds of items purchased at this income level became the basis for the intermediate budget. Generally, income classes below and above the classes used for the intermediate budget were the source of quantities for the lower and higher budgets.

7. See "Clothing Budgets for Children from USDA: Annual Costs at Three Levels in Four Regions," *Home Economics Journal*, Vol. 1, No. 3 (March 1973) and Virginia Britton, *USDA Clothing Budge[illegible] Annual Costs* (Summer 1974).

8. See U.S. Bureau of the Census, *1970 Census Users' Guide*, Part 1 (October 1970), p. 93.

9. See also Jacob S. Siegel, "Estimates of Coverage of the Population by Sex, Race, and Age in the 1970 Census," *Demography*, Vol. 11 (February 1974), pp. 1-23.

10. For CPS population coverage and concepts, see any of the U.S. Bureau of the Census Current Population Reports, Series P-60, *Consumer Income*.

11. Moreover, income underreporting in the CPS, as well as in the Census, appears to be increasing. See Mitsuo Ono and Herman P. Miller, "Income Nonresponses in the Current Population Survey," *Proceedings of the Social Statistics Section, American Statistical Association, 1969.*

12. A detailed comparison of the BEA and Census income concepts is provided in Herman P. Miller, *Income Distribution in the United States*, a 1960 Census Monograph (Washington, D.C.: Government Printing Office, 1966), pp. 172-190.

13. See Internal Revenue Service, *Statistics of Income -- 1973, Individual Income Returns*, Sec. 7 (1975).

14. U.S. Department of Health, Education, and Welfare, Social Security Administration, *Social Security Bulletin, Annual Statistical Supplement, 1973*, pp. 5-6.

15. See U.S. Department of Health, Education, and Welfare, Social and Rehabilitation Service, National Center for Social Statistics, *Findings of the 1973 AFDC Study*, Pts. I-IV (1974).

16. See Frederick J. Scheuren and Barbara Tyler, "Matched Current Population Survey and Social Security Data Bases," *Review of Public Data Use*, Vol. 3, No. 3 (July 1975), pp. 7-10.

17. U.S. Congress, Senate, Committee on Agriculture and Forestry, *Food Stamp Program: A Report in Accordance with Senate Resolution 58* (July 21, 1975).

18. Executive Office of the President, Office of Economic Opportunity, *1967 Survey of Economic Opportunity Codebook*.

19. Dorothy S. Projector and Gertrude S. Weiss, *Survey of Financial Characteristics of Consumers*, Federal Reserve Technical Paper (August 1966), Technical Note.

20. Raymond J. Uhalde, *Analysis of Multiple Benefits Receipt Among the Low Income Population* (Washington, D. C.: Mathematica, Inc., December 1974), Ch. I. Similar experiments conducted in four cities in New Jersey and Pennsylvania from 1968 to 1972 and in two rural sites also obtained monthly income data, but for much smaller samples than the Seattle, Denver, and Gary experiments.

21. See U.S. Department of Health, Education, and Welfare, Office of the Assistant Secretary for Planning and Evaluation, Office of Income Security Policy, *The Changing Economic Status of 5000 American Families: Highlights from the Panel Study of Income Dynamics* (May 1974), Ch. II.

IV. CONSTRUCTING POVERTY MEASURES

Preceding chapters have discussed some alternative measures of poverty and issues related to their use. As shown, data limitations and conceptual problems restrict the number of alternatives that would be possible to construct at this time. This chapter discusses measures that could be constructed using available data and known conceptual frameworks. It generally follows the outline of Chapter II, but its emphasis is on realistic alternatives rather than on all measures that are theoretically desirable. First, the empirical effects, advantages, and disadvantages of relative and fraction-of-the-median measures are examined and contrasted with the current measure. The chapter then considers possible variations of the current measure, such as use of a new or different food plan, a different formula for expanding food costs to total family living needs, or different adjustments to poverty measures to reflect differences by geographic regions and over time. Finally, it describes the impacts of different definitions of income and the use of a household rather than a family as the reference unit.

Relative Measures of Poverty

Economic measures of poverty are either absolute, and do not vary automatically with changes in income, or they are relative and change directly with the prevailing income. Absolute measures clearly require judgmental decisions and construction from consumption patterns or standards that are not always currently available. Selection and reevaluation of a fixed percentile for the purely relative measure and a fixed percent of median family income for the quasi-relative measure also require judgmental decisions on selecting the percentile or percentage of median income that best divide poor from non-poor. Although methods for establishing such levels are subject to theoretical differences and wide disagreement, it should be noted here that analysts frequently use the lowest quintile or quartile and fifty percent of median family income.

Unlike the purely relative concept, measures using a percentage of median family income theoretically allow reduction or even elimination of poverty, since every family could have income exceeding some specific percent of national median family income. Use of a poverty line based on median income would show progress only if efforts were directed at redistributing rather than increasing incomes in general. Using this measure, national efforts to overcome poverty would appear to be unsuccessful unless the incomes at the lower end of the income distribution increased at a faster rate than incomes in general.

However, this theoretical possibility has not happened. For the past 15 years, a poverty line set at 50 percent of median family cash income would have resulted in an almost constant poverty rate for families, and thus would have resembled a purely relative cutoff set at the lowest quintile of the family income distribution. This does not mean that there has been little income redistribution in the past 15 years. Some recent poverty programs have redistributed benefits in the form of in-kind transfers like food stamps. Furthermore, it is clear from annual income statistics that the composition of households at the bottom of the distribution is now different. By and large, families of workers, particularly working men, have moved out of the lowest quintile (or quartile) while families dependent more on transfer payments than on earnings -- the aged and female heads of large families -- have not. The income distribution would be different if in-kind income, housing, medical insurance, and benefits from private sources were counted as income; if some value of assets were included; or if adjustments for taxes were made.

When using fraction-of-the-median definitions, it is important to determine from which median family income a given percentage is to be taken. For example, since the median family income in 1969 for a family of four was $10,782 and for all families was $9,586, a definition based on the median family income for a family of four (as in Title XX of the Social Security Act) would yield a different threshold than would one based on the median family income for all families (as in Title II of the Housing and Community Development Act of 1974). Furthermore, definitions based on the median family income in the nation or in each state (as in Title XX of the Social Security Act) or in each metropolitan area (as in Title II of the Housing and Community Development Act) will also have different results.

It is sometimes suggested that relative definitions of poverty have the advantage of enabling natural adjustments of the poverty lines for family size or other characteristics. For example, if the poverty line is set at 50 percent of median family income, the poverty line for a four-person family can be set at 50 percent of the median family income for four-person families, and similarly for other family sizes. Table 6, which shows median family income in 1969 by family size in a few states and in the nation as a whole, illustrates the problems with this method. It is usually presumed that larger families need more income, but in every instance displayed in the table the families of seven or more have lower incomes than four-person families.

Similar problems arise if the median income for various subgroups of the low-income population is used as a basis for poverty lines. For example, the median income for families in 1969 was $9,586, while that for unrelated individuals was only $2,489. If 50 percent of median family income were used as a poverty line for persons living in families, and 50 percent of median income for unrelated individuals were used for persons living alone, the poverty lines in 1969 would have been $4,795 and $1,245, respectively. A definition of poverty based on direct estimates of needs rather than on the relative place in the income distribution may have a different relationship.

Unlike the current poverty matrix which results in a fluctuating but downward trend in the poverty counts, a relative measure would have shown a constant rate of poverty. For example, between 1959 and 1974, the number of families defined as poor under the current measure declined from 18.5 percent to 9.2 percent of the population. One reason for this

Table 6. Median Income by Size of Family Unit for United States and Selected States, 1969
(Index, U.S. median income for a family of four = 100.00)

State	Total[a] Families	Size of Family Unit									
		1 Person	2 Persons	3 Persons	4 Persons	5 Persons	6 Persons	7 Persons	8 Persons	9 Persons	10 Persons or More
UNITED STATES											
Number	51,168,599	18,696,505	18,132,855	10,625,016	9,694,734	6,158,883	3,387,400	1,883,626	640,816	314,225	331,044
Median income .....dol ..	9,586	2,488	7,730	9,802	10,782	11,039	10,884	10,247	9,847	9,392	8,852
Index	88.9	23.1	71.7	90.9	100.0	102.4	100.9	95.0	91.3	87.1	82.1
NEW YORK											
Number	4,609,638	1,821,211	1,626,191	982,957	905,077	555,810	291,905	160,264	46,224	22,177	19,033
Median income .....dol ..	10,609	3,228	8,779	10,854	11,654	11,824	11,741	11,357	11,564	11,395	11,141
Index	98.4	29.9	81.4	100.7	108.1	109.7	108.9	105.3	107.3	105.7	103.3
ILLINOIS											
Number	2,794,194	1,021,419	988,501	576,944	526,267	337,885	187,771	109,741	34,530	16,420	16,135
Median income .....dol ..	10,957	2,884	9,041	11,178	11,912	12,291	12,394	11,817	12,307	12,064	11,879
Index	101.6	26.7	83.9	103.7	110.5	114.0	115.0	109.6	114.1	111.9	110.2
CALIFORNIA											
Number	5,001,255	2,327,499	1,856,125	1,028,475	962,531	590,412	307,875	158,588	50,762	23,543	22,944
Median income .....dol ..	10,729	3,220	8,979	10,828	11,918	12,213	11,964	11,227	10,888	10,393	10,266
Index	99.5	29.9	83.3	100.4	110.5	113.3	111.0	104.1	101.0	96.4	95.2
NORTH CAROLINA											
Number	1,292,466	411,423	427,255	299,161	258,366	148,924	78,519	45,215	15,631	8,562	10,833
Median income .....dol ..	7,770	1,774	6,121	8,146	9,104	8,964	8,247	7,342	6,529	5,856	6,072
Index	72.1	16.5	56.8	75.6	84.4	83.1	76.5	68.1	60.6	54.3	56.3
MISSISSIPPI											
Number	534,444	164,445	177,337	109,431	94,646	60,985	36,480	26,043	10,917	6,934	11,671
Median income .....dol ..	6,068	1,317	4,403	6,654	7,825	7,631	6,702	5,350	4,545	4,163	3,984
Index	56.3	12.2	40.8	61.7	72.6	70.8	62.2	49.6	42.2	38.6	37.0

SOURCE: U.S. Bureau of the Census, 1970 Census of Population, Vol. I, Characteristics of the Population, Chap. D, "Detailed Characteristics," Part 1, U.S. Summary, Tables 250 and 251, and Parts 6, 15, 26, 34, and 35, Tables 198 and 199.

[a] Excludes family units of 1 person.

difference is the changing relationship between the absolute and relative measures of poverty. As shown in Table 7, the current poverty cutoff for a nonfarm family of four has steadily declined as a percentage of the median income for a four-person family between 1959 and 1974. The present poverty line for a (nonfarm) four-person family adjusted only for price changes has declined to 34 percent of median income for four-person families in 1974 -- down from approximately 49 percent in 1959 and 44 percent in 1963, the poverty base year. Clearly this reflects an increase in real income, but it also suggests that the standards on which the current poverty cutoff are based may need to be reevaluated.

Table 7. Comparison of Median Family Income and Official Poverty Cutoff for a Family of Four, 1959-1974

Year	Median Income for a 4-Person Family (U.S.)	Poverty Cutoff for a 4-Person Family (Nonfarm)	Poverty Cutoff as a Percentage of Median Income
1959	$ 6,070	$2,973	49%
1960	6,295	3,022	48
1961	6,437	3,054	47
1962	6,756	3,089	46
1963	7,138	3,128	44
1964	7,488	3,169	42
1965	7,800	3,223	41
1966	8,341	3,317	40
1967	8,994	3,410	38
1968	9,834	3,553	36
1969	10,623	3,743	35
1970	11,167	3,968	36
1971	11,626	4,137	36
1972	12,808	4,275	33
1973	13,710	4,540	33
1974	14,747	5,038	34

SOURCE: U.S. Bureau of the Census, Current Population Reports, Series P-60: for median income, see annual reports on money income of families and persons; for poverty cutoffs, see annual reports on the poverty population.

Poverty Level Market Basket

Setting and updating both absolute and relative measures require some method for determining a basic level of need. As noted in Chapter II, there are conceptual problems in using a full market basket approach for setting such a level, since standards of need based on scientifically measurable consumption units are not available. Furthermore, as is discussed in Chapter III, AFDC state budgets and BLS Family Budgets are unacceptable as poverty cutoffs. It should be added that the Orshansky measure was developed using the particular construction of a nutrition base and a multiplier, precisely because of the difficulty of setting standards given the data base and conceptual problems.

The Department of Agriculture uses the Recommended Dietary Allowances as the basis for nutritional goals for its food plans. Other nutritional standards could be used as a basis for food plans for use in the Orshansky measure. In an analysis which was prepared for this study and which is summarized in technical paper XII, the USDA used two other standards to construct a variety of food plans for 12 age-sex categories and determined the cost of such plans. It was found that the plans developed to meet the three different standards (and take into account food consumption patterns of survey households with relatively low food costs) had similar costs. Thus, the choice of nutritional standards does not necessarily affect the poverty thresholds. The composition of food plans can, however, significantly affect poverty cutoffs, because plans can be more or less liberal in the use of delicacies, high-quality meats, and other expensive foods, and in making assumptions about spoilage or waste.

It should be noted that while a majority of survey households who spent less on food than the cost for the USDA's least costly food plan did not have diets that provided recommended amounts of nutrients, such households did not necessarily suffer from a nutritional deficiency. As has been stated earlier, not everyone requires the amounts of nutrients specified in the RDA. Furthermore, the USDA's least costly food plan is not the lowest-cost adequate diet that could be developed. It is intended to be reasonably palatable and is characterized by certain aesthetic aspects of foods that people desire. Expenditures for waste and nonnutritious foods are not eliminated from the food plans. The amounts of expensive types of foods such as meats are restricted in the plan, while whole-grain and enriched breads and cereals and dry beans, which provide many important nutrients at low cost, are included in large amounts. Nutritious plans at lower cost could be developed, but such plans would deviate further than the USDA plan from the food consumption patterns of U.S. households. The same subjective factors which enter into the setting of a poverty line enter into the selection of a food plan intended to be used for poverty measurement.

The cost of the thrifty plan (estimated using 1965-66 prices) is low when compared to the cost of food reported as used by survey households in the 1965 Household Food Consumption Survey. Only 10 percent of the 1965-66 survey households used food costing less than the thrifty plan. Preliminary food expenditures reported from the 1972-73 Consumer Expenditure Survey, although not completely comparable, are lower than costs of food reported as used by households in the 1965-66 Food Consumption Survey, updated to 1972-73 levels. Expenditures reported in the 1972-73 Expenditure Survey for the average family of four were $30 a week for food at home and $40 for food at home and away from home. These expenditures fall between the cost for the USDA's low-cost plan and moderate-cost plan in 1972-73 for a four-person family composed of a couple and two elementary school children ($33 and $42, respectively). The costs for the food plans cover food for all meals and snacks for the week, but assume that all food is prepared at home. Also, the plans are designed to provide nutritious diets, and the nutritional quality of foods covered by 1972-73 expenditures is not known.

Since no accepted standards of need exist for nonfood items (housing, clothing, transportation, etc.), the current poverty threshold is derived by assuming that the appropriate ratio of expenditures on nonfood items to expenditures on food would be that observed on the average in the United States. The 1955 Food Consumption Survey found that average food expenditures made up one third of total income after taxes. Thus, the cost of the economy food plan was multiplied by three to obtain the poverty standard. The largest component of the poverty cutoffs is, then, set by this multiplier. A slightly different ratio is used for one-person and two-person families, since their total consumption requirements and fixed costs are believed to be significantly different from those for larger families. Income after Federal income taxes was used as a proxy for expenditures so that income for total expenditures could be compared to necessary food expenditures. Of course, income allows for saving as well as consumption.

The appropriate multiplier is a question of judgment, and multipliers higher or lower may be reasonable. Some people have questioned, for instance, the judgment implicit in assuming that food expenditures must not exceed the average proportion of total income spent on food if total income is to provide adequate amounts of clothing, shelter, and other nonfood items. The problem is that, as family income increases, the proportion of income spent on food goes down. According to the Consumer Expenditure Surveys, at the lowest family incomes, upwards of 50 percent of cash income is observed to be spent on food. Thus, very poor families may forego some nonfood expenditures to maintain an adequate diet. The average family, however, spends a much smaller proportion of its income on food than families that would be at the poverty line under the current measure. And, over time, as average family income increases, the proportion devoted to food continues to decline, while there is an increase in the proportion of nonfood items (presumably including more luxuries). Many believe, therefore, that it would be better to base the multiplier on the proportion of income spent on food by those below the average, although the precise level is difficult to determine.

On the other hand, a higher multiplier has been suggested because surveys other than the 1955 Food Consumption Survey, from which the 3:1 ratio is derived, indicate a higher ratio of nonfood to food expenditures for the average American family. For example, a ratio of 3.4:1 is derived from the 1965 Food Consumption Survey, possibly indicating a general rise in the standard of living since 1955. More significantly, the Consumer Expenditure Surveys of 1960-61 and 1972-73 seem to indicate that the ratio exceeds 5:1. One reason for this discrepancy may be the underreporting of income in the 1955 Household Food Consumption Survey because income information was measured globally for the entire household, not for household members separately. Data for 1965 are likely to be less valid. The household was asked only to specify an income class representing household income after taxes in 1965, but to specify total income and deductions in 1955. The Consumer Expenditure Surveys, on the other hand, obtained income by detailed source so that income figures are likely to be more reliable and less likely to be underreported. At the same time, the food expenditure data may be less reliable in the Consumer Expenditure Surveys.

Another issue relating to the multiplier involves an inconsistency between income definitions. The multiplier is based on the after-tax income-to-food expenditure ratio. Thresholds thus derived are compared to before-tax Census income.

Orshansky Update

It is evident that many critical judgments significantly affect the level of the current poverty lines. These judgments pertain to: the level of food plans considered as adequate, the multiplier relating total income requirements to the cost of the food, the appropriateness of before-tax or after-tax income, the setting of thresholds for representative family types within the range of requirements for similarly composed families, and adjustment of the cutoffs for very large or small families. To understand how significant these judgments can be, one need only consider the implications of using the low-cost food plan rather than the economy food plan and using a 5:1 rather than the 3:1 multiplier. These two changes, both within the range of reasonable judgment and based on statistical interpretations, would more than double the official poverty thresholds and include about one-third of the population as poor.

In Technical Paper XI of this study, Mollie Orshansky constructed alternative poverty cutoffs taking into account many of these factors. More than twelve sets of poverty cutoffs are constructed, and the characteristics of the poverty populations, identified by using these cutoffs are examined.

Table 8 illustrates the effect which some of these factors can have on the poverty cutoffs. Four sets of revised cutoffs are shown, compared to the official weighted average poverty cutoffs for 1974. The revised cutoffs are based on the revised low-cost food plan, two versions of 80 percent of the revised low-cost food plan, and the thrifty food plan. In the current official poverty matrix a single cutoff is assigned to families of seven or more persons with a specified number of children, by sex of head. This cutoff was an average cutoff for larger families (representing about eight persons). One of the revised sets of cutoffs using 80 percent of the low-cost food plan (Condensed Family Size) uses this

Table 8. Sensitivity Analysis of 1974 Poverty Cutoffs

Family Size	Official Weighted Average Cutoff 1974	Revised Poverty Cutoffs Based on:							
		80% Low-Cost Plan Condensed Fam. Size		Thrifty Plan		80% Low-Cost Plan		Low-Cost Plan	
		Level	%Increase[a]	Level	%Increase[a]	Level	%Increase[a]	Level	%Increase[a]
1 Person									
Under 65 Years	$2,557	$ 3,970	55.3%	$ 3,868	51.3%	$ 3,970	55.3%	$ 4,467	74.7%
65 Years or Over	2,352	3,516	49.5	3,459	47.1	3,516	49.5	3,956	68.2
2 Persons									
Head under 65	3,294	4,963	50.7	4,835	46.8	4,963	50.7	6,204	88.3
Head 65 or Over	2,958	4,395	48.6	4,324	46.2	4,395	48.6	5,494	85.7
3 Persons	3,910	5,160	32.0	5,052	29.2	5,160	32.0	6,450	65.0
4 Persons	5,008	6,494	29.7	6,366	27.1	6,494	29.7	8,118	62.1
5 Persons	5,912	7,790	31.8	7,645	29.3	7,790	31.8	9,737	64.7
6 Persons	6,651	9,394	41.2	9,228	38.7	9,394	41.2	11,742	76.5
7 Persons	8,165[b]	11,668[b]	42.9	10,039		10,451		12,765	
8 Persons				11,120		11,852		14,138	
9 Persons				12,182		13,271		15,479	
10 Persons				13,255		14,774		16,837	
11 Persons or More				14,683		16,818		18,687	

SOURCE: Based on analysis performed by Mollie Orshansky (see Technical Paper XI).

Note: Sensitivity analysis based on indicated food plan and an income:food expenditure ratio of 3.4:1.

[a] Percent increase over the 1974 official weighted average cutoff.

[b] Represents an average for families with 7 or more persons.

same convention. The other sets of revised cutoffs show separate dollar levels for the larger families up to size eleven. Each set of cutoffs used an income-to-food ratio of 3.4:1, derived from the 1965 Food Consumption Survey. As the table illustrates, all of the new poverty thresholds exceed their comparable official weighted average 1974 cutoffs, although the increase is not the same for each family size and is much smaller for families with three to six members. This differential increase partly relates to the differential adjustment of the RDA for adults and children between 1958 (the basis for the economy plan in the current formula) and 1974 (the basis for the revised food plans). Another reason is that, compared with 1955, the 1965 survey indicated a larger drop in the percentage of income spent on food for two-person families than for all families, so that the multipliers are different.

Poverty cutoffs based on the low-cost food plan are included for several reasons. First, they illustrate the significant impact which the level of the food plan can have on the poverty cutoffs. Second, they demonstrate the effect which a change in the poverty cutoffs would have on the "near poor" cutoffs which are based on the low-cost food plan (the Census Bureau publishes counts of those at 125 percent of the poverty level). Finally, the cutoffs based on the revised low-cost plan approximate the effect of using the thrifty food plan with a higher income-to-food ratio. The reason is that, for all family sizes except persons living alone, the low-cost food plan is approximately 27 percent higher than the thrifty food plan. Therefore, poverty cutoffs based on the low-cost food plan and an income-to-food ratio of 3.4:1 are roughly equivalent to poverty cutoffs based on the thrifty food plan and an income-to-food ratio of 4.3:1.

The revised poverty lines illustrated here center about the USDA food plans of December 1974 -- a time when food prices were abnormally high relative to other commodities. Accordingly, poverty cutoffs were also constructed from 1972 food plans and updated to 1974 by the all-items CPI. This is discussed later in this chapter in the section, Updating the Standard.

The change in the poverty cutoff based on the thrifty food plan and a 3.4:1 multiplier for a four-person family ($6,366) is 43 percent of the 1974 median income for four-person families ($14,747), just about what it was for the current poverty line in its base year 1963. Similar comparisons for the current cutoffs are: 49 percent in 1959, 42 percent in 1964, and 34 percent in 1974.

Table 9 displays variations in the size of the "poverty population" associated with each of the poverty cutoffs shown in Table 8. With the revised cutoffs based on the thrifty food plan, there are 8.7 million poor families in 1974, equal to 15.6 percent of all families. An examination of the characteristics of the poverty population using these updated cutoffs is included in Technical Paper XI. The impact of using the new measures can be approximated, however, by examining the different levels of the current poverty measure explored in Chapter V. Because of the differences in the food plans, the levels examined in Chapter V may show a slightly different distribution by family type than will those based on the revised cutoffs discussed here.

Table 9. Size of the Poor Population
Under Current and Revised Poverty Cutoffs, 1974
(In millions)

	U.S. Population	The Poor				
			Using Revised Poverty Cutoffs[a]			
		Using Official Poverty Cutoffs	80% of Low-Cost Plan Condensed Family Size	Thrifty Plan	80% of Low-Cost Plan	Low-Cost Plan
Persons	209.3	24.3	39.2	39.9	41.4	55.4
Families	55.7	5.1	8.8	8.7	9.0	12.8
Unrelated Individuals	18.9	4.8	8.4	8.2	8.4	9.2
Children Ages 5-17 In Families	49.8	7.5	10.4	11.1	11.6	15.4

Source: Special Tabulations from the March 1975 Current Population Survey.

[a] Revised cutoffs are identified by the food plans, as in Table IV-3. Revision of the cutoffs, however, involves factors other than food plans.

Adjustments for Family Size and Composition

As noted in Chapter II, a measure which is used to equilibrate standards of need for different family size and composition is called an equivalence scale. The most extensively developed equivalence scale published by the Federal government is that which the Bureau of Labor Statistics uses in connection with its Family Budget series. Technical Paper IV, which includes a description of the scale, concludes that because of technical shortcomings in the derivation, it should not be used for adjusting poverty standards for family size and composition. It is presented here to illustrate some problems encountered in the construction of equivalence scales. The BLS equivalence scale is illustrated in Table 10.

Early consumption studies suggested that the percentage of income a family spends on particular goods changes as the family's income changes. With necessities such as food, the percent of income spent on such goods declines as the income increases. Thus, two otherwise equivalent families with different incomes would spend different percentages of their income on food. This is the basis for an assumption that families spending equal proportions of their income on food are living at equivalent levels in all ways. This basic assumption is used in the construction of the BLS equivalence scale. Furthermore, in developing the scale, smoothings and replotting of data were performed because the actual data used did not initially fit basic preconceptions that a scale should increase with family size, other variables held constant. The arbitrariness of the basic assumption and the peculiar behavior of the data have caused the Bureau of Labor Statistics to alert users to the limitations of its equivalence scale.

The current poverty measure consists of a matrix of cutoffs for 124 different family sizes and types. Sixty-two of these cutoffs, by family size, age and sex of head, and number of related children under 18, were separately derived on the basis of different nutritional requirements, except that one-person household criteria were derived from the two-person relationship rather than from the food requirements, because of considerations and limitations discussed in Technical Paper XI. In addition, a downward adjustment for farm residence was made to account for the noncash income of home-grown food, increasing the number of cutoffs to 124. An equivalence scale can be derived from these cutoffs by using the poverty line in the current poverty measurement system for a four-person, two-child, male-headed, nonfarm family as the base set at 100, and then indexing all other poverty lines for the remaining 123 family types in relation to this base. Table 11 shows the derived equivalence scale which could be used to adjust other poverty lines for family size and type. As finely adjusted as the poverty thresholds are, however, it is still necessary to make approximations in assigning the thresholds to various types of families. For example, a threshold is assigned to a (nonfarm) five-person female-headed family with three children. There are many such families; the range of children's ages can be great, and the two adults can be young or old, male or female.

Table 10. Revised Equivalence Scale 1/ for Urban Families of Different Size, Age, and Composition (4-person family-husband, age 35 to 54, wife, 2 children, older 6 to 15=100)

Size and type of family[2]	Age of head			
	Under 35	35-54	55-64	65 or over
One person	35	36	32	28
Two persons: average[3]	47	59	59	52
Husband and wife	49	60	59	51
One parent and child	40	57	60	58
Three persons: average[3]	62	81	86	77
Husband, wife, child under 6	62	69	--	--
Husband, wife, child 6-15	62	82	88	81
Husband, wife, child 16-17	--	[4]91	88	--
Husband, wife, child 18 or over	--	82	85	77
One parent, 2 children	67	76	82	75
Four persons: average[3]	74	99	109	91
Husband, wife, 2 children, (older under 6)	72	80	--	--
Husband, wife, 2 children, (older 6-15)	77	100	105	95
Husband, wife, 2 children, (older 16-17)	--	113	125	--
Husband, wife, 2 children, (older 18 or over)	--	96	110	89
One parent, 3 children	88	96	--	--
Five persons: average[3]	94	118	124	--
Husband, wife, 3 children, (oldest under 6)	87	97	--	--
Husband, wife, 3 children, (oldest 6-15)	96	116	120	--
Husband, wife, 3 children, (oldest 16-17)	--	128	138	--
Husband, wife, 3 children, (oldest 18 or over)	--	119	124	--
One parent, 4 children	108	117	--	--
Six persons or more: average[3]	111	138	143	--
Husband, wife, 4 children or more, (oldest under 6)	101	--	--	--
Husband, wife, 4 children or more, (oldest 6-15)	110	132	140	--
Husband, wife, 4 children or more, (oldest 16-17)	--	146	--	--
Husband, wife, 4 children or more, (oldest 18 or over)	--	149	--	--
One parent, 5 children or more	125	137	--	--

SOURCE: Bureau of Labor Statistics, Revised Equivalence Scale for Estimating Equivalent Incomes or Budget Costs by Family Type, Bull. No. 1570-2 (November 1968), derived from BLS Survey of Consumer Expenditures, 1960-61.

[1] The scale values shown here are the percentages of the cost of goods and services for family consumption of the base family (4 persons--husband, age 35-54, wife, 2 children, older child 6-15 years) required to provide the same level of living for urban families of different size, age, and composition.

[2] Husband-wife and one-parent families with their own children (including adopted and stepchildren) present, but with no other persons living with the family.

[3] Scale values for individual family types weighted by the number of families of each type in the universe. The averages include some types for which values were not shown separately because of the small number of such families in the sample.

[4] Revised.

Table 11. Equivalence Matrix Implicit in Current Poverty Measure

Size of Family Unit	Number of Related Children Under 18 Years Old						
	None	1	2	3	4	5	6
NONFARM							
Male Head							
1 Person (Unrelated Individual):							
Under 65 years	53	--	--	--	--	--	--
65 Years and Over	48	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	67	74	--	--	--	--	--
Head 65 Years and Over	60	74	--	--	--	--	--
3 Persons	77	80	84	--	--	--	--
4 Persons	102	104	100	105	--	--	--
5 Persons	123	125	121	118	120	--	--
6 Persons	141	142	139	136	132	134	--
7 or More Persons	178	179	176	173	169	163	161
Female Head							
1 Person (Unrelated Individual):							
Under 65 Years	49	--	--	--	--	--	--
65 Years and Over	47	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	61	67	--	--	--	--	--
Head 65 Years and Over	59	67	--	--	--	--	--
3 Persons	75	71	79	--	--	--	--
4 Persons	98	102	101	100	--	--	--
5 Persons	118	121	121	120	116	--	--
6 Persons	137	140	139	138	133	129	--
7 or More Persons	172	175	174	173	168	165	157
FARM							
Male Head							
1 Person (Unrelated Individual):							
Under 65 Years	45	--	--	--	--	--	--
65 Years and Over	41	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	57	63	--	--	--	--	--
Head 65 Years and Over	51	63	--	--	--	--	--
3 Persons	66	68	72	--	--	--	--
4 Persons	87	88	85	89	--	--	--
5 Persons	105	106	103	100	102	--	--
6 Persons	120	120	118	115	112	114	--
7 or More Persons	151	153	150	147	144	138	137
Female Head							
1 Person (Unrelated Individual):							
Under 65 Years	42	--	--	--	--	--	--
65 Years and Over	40	--	--	--	--	--	--
2 Persons:							
Head Under 65 Years	52	57	--	--	--	--	--
Head 65 Years and Over	50	57	--	--	--	--	--
3 Persons	64	61	67	--	--	--	--
4 Persons	83	86	86	85	--	--	--
5 Persons	100	103	103	102	98	--	--
6 Persons	117	119	118	117	113	110	--
7 or More Persons	147	149	148	147	143	140	133

SOURCE: Mollie Orshansky, Office of Research and Statistics, Social Security Administration.

Some argue that modern computer technology can handle more detailed thresholds. Statistical definitions of poverty could conceivably be based on tailor-made food plans for each family, fitting the age and sex of every family member. Another view holds that such fine distinctions are not meaningful, since nutritional standards and food plans are themselves only approximations subject to error. Moreover, it is hard to believe that families themselves can and do adjust spending patterns this incrementally.

Simplification of the standards by eliminating some of the size and composition differences in the poverty lines has been proposed. One reason for this is that the differences, which are based on nutritional requirements, cannot be representative of total income requirements. It is not likely that total consumption patterns vary by family size and composition in the same way that nutritional requirements do, or that variations for other basic needs can be as precisely measured as nutritional needs. Moreover, a simplified structure would more closely approximate common administrative income eligibility standards, which make distinctions only for family size. Chapter V discusses the statistical results of progressively reducing the number of thresholds by eliminating distinctions based on residence, sex of head, and the presence of children. Further significant details about the construction of the poverty thresholds are to be found in Technical Papers I and XI.

It is possible to use Table 11 to derive equivalence scales with less sophistication. For example, one can eliminate the farm/nonfarm difference and use only the nonfarm portion of the table. Similarly, one can eliminate differences for sex of head by using only the male-headed, nonfarm portion. It is not possible, however, to derive a set of adjustment factors for family size alone from this table. Such factors must be derived from weighted average poverty cutoffs which are published each year by the Census Bureau in its series on the characteristics of low-income families (Current Population Reports, Series P-60). The weighted cutoffs for 1974 are displayed in Chapter I, Table 3. Equivalence scales derived from the annual tables of weighted cutoffs vary slightly from year to year because the tables are based on current numbers of U.S. families of each type. Similar tables can be derived based on the number of poor families.

Equivalence scales derived from the poverty matrix are useful for analytical purposes -- chiefly to compare alternative poverty cutoffs with the official ones. They are used in this way in Chapter V, which compares the size and composition of poverty populations under alternative poverty measures.

Geographic Cost-of-living Differences

One of the most troublesome concepts of poverty measurement is that of geographic cost-of-living differences. Because of Congressional interest in the subject, as noted in section 823 of the Education Amendments of 1974, as well as because of concern about the problem among technicians, this study directed considerable effort in an analysis of possibilities for incorporating such differences in a poverty measure. Data sources examined include: the BLS Family Budget series, state standards of need for the program of Aid to Families with Dependent Children, the 1960 and 1970 Decennial Censuses of Housing, the Current Population Surveys, the 1955 and 1973 Farm Family Living Expenditure Surveys, the Consumer Price Index, the 1955 and 1965 Household Food Consumption Surveys, and the 1960-61 and 1972-73 Consumer Expenditure Surveys. In addition, economic literature and related government studies on the subject were reviewed, and special studies were undertaken to see if data limitations or conceptual problems could be overcome. Material relevant to the subject of geographic differences will be found in: Technical Paper III, Literature Review and Annotated Bibliography; Technical Paper IV, The Bureau of Labor Statistics Family Budgets Program; Technical Paper VIII, The 1972-73 Consumer Expenditure Survey; Technical Paper V, The Consumer Price Index; Technical Paper XIII, Geographic Differences and Relative Poverty; Technical Paper XV, Analytic Support for Cost-of-Living Differentials in the Poverty Thresholds; Technical Paper IX, Inventory of Federal Data Bases Related to the Measurement of Poverty; and Technical Paper XIV, Relative Measure of Poverty.

The conclusion of this extensive analysis is that although there may be geographic differences in the cost of living, there is no known way to make satisfactory geographic adjustments to the poverty cutoffs. Significant problems stem from both unresolved conceptual issues discussed in Chapter II and from data limitations discussed in Chapter III. Research and statistical activities that might lead to a resolution of some of the problems are discussed in Chapter VI. The major lines of argument leading to the negative finding are reviewed here in some detail.

Components of Geographic Differences

Because it is necessary to deal simultaneously with many overlapping and interdependent subjects, it is helpful to describe the elements involved in an analysis of geographic differences. The major components are residential classification, elements of expense, the types of economic measures, and levels of living.

Residential or Geographic Classification

A variety of residential or geographic variations can be explored in a study of geographic differences. For example, political boundaries such as states or counties, incorporated places with different population densities, and regions like the North or South are most often the bases for residential classification. Sometimes the type of industry, such as farming, forms the basis of the definition. In other instances, geographic characteristics such as high plains, mountains, or coastal plains or climatic characteristics constitute the definition. In addition, sometimes the classification is based on where people live, sometimes on where they work, and sometimes on where they buy goods and services. Unfortunately, these classification systems are not mutually exclusive. For example, a Standard

Metropolitan Statistical Area (SMSA) is a county or group of contiguous counties that contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of 50,000 or more. A nonmetropolitan area is one that is not within a SMSA. The metropolitan classification differs technically from the urban-rural classification. The urban population consists of all persons living in places of at least 2,500 inhabitants incorporated as cities, villages, boroughs, and towns. The rural population includes all persons living outside urban areas. The rural population can be divided into two groups, the rural farm population, which includes rural people residing on farms, and rural nonfarm people. When the terms farm and nonfarm are used as a dichotomy, the nonfarm population includes the rural nonfarm and urban groups. But, rural people can be found in SMSAs. In the various studies, some data are presented using one classification system and some another. This is an inherent, almost unavoidable, problem when a variety of data is used.

Elements of Expense

Elements of expense such as food, shelter, transportation, medical services, and clothing are useful for cataloging prices and expenditures by residential category. All such expenditure categories need to be explored in order to adjust poverty cutoffs for residential differences.

Types of Economic Measures

Frequently, two different phrases are incorrectly used interchangeably to describe geographic differences. The first is differences in cost of living, which describes differences in the style of living between areas and includes both differences in the prices paid for particular items and the kinds and quantities of goods purchased. The second is differences in price, which describes how the prices of a fixed market basket vary between areas. When one argues that it is cheaper to live in one place than another, it is important to know if he is referring to the different life styles or different prices in the two places. Cost of living may appear to be low in an area because consumption or expenditures there are generally lower than in other areas. However, this may result from low prevailing income levels and not from differences in prices.

Levels of Living

Geographic differences in living costs appear to vary by level of living. Differences in the cost of new houses, no matter how great, may not affect the poor. Similarly, regional differences in the cost of the liberal food plan may not be relevant to a study of geographic differences in living costs faced by the poor.

Data Sources for Measuring Geographic Differences

The lack of data constitutes the major obstacle in analyzing the nature and degree of geographic cost-of-living differences. It is commonly but mistakenly believed that there is a government cost-of-living index for almost all cities. Practically speaking, only one statistical series provides current data about differences in living costs, the Family Budget series published by the Bureau of Labor Statistics. Because of the special significance of this series for dealing with questions of poverty measurement in general and with geographic differences in particular, this study examined its concepts and coverage. Significant technical and conceptual problems were encountered in considering its potential use in poverty measurement. These stem from the use of expenditure and consumption patterns in making regional modifications in the market basket, and from limitations in the availability and comparability of pricing data. Technical Paper IV discusses fully the conceptual and technical problems encountered.

It is important to note that, however strong or weak its conceptual basis, the BLS series covers only 44 cities, and obviously some states are not represented. Even for states with cities included in the series, the level of living in the state as a whole may not be represented by the average cost of living of the particular city or cities covered. The Family Budget series provides no way to measure the differences in level of living between a city and a rural area; the cost of living in a city that is included in the series cannot be construed as being typical of the cost of living in rural areas away from the city.

The cities in the Family Budget series are grouped by regions, but the cost of living in the cities cannot be construed as being typical of living costs in the region. Significant differences occur among the indexes for cities within each region.

The Consumer Price Index is frequently but incorrectly cited to show geographic variations in prices. The CPI measures average changes in the prices of goods and services usually bought by urban wage earners and clerical workers. It is based on prices of approximately 400 items selected to represent the movement of prices of all goods and services purchased by such workers. Prices are obtained in 39 major statistical areas and 17 smaller cities. There is no index for small towns or rural areas. Furthermore, the CPI does not measure absolute price differences among the cities; it measures only changes over the base 1967 prices in each city. Some of the price data collected for use in the CPI may be useful for analyzing cost-of-living differences, but an adequate analysis would require additional collection of price data and the prior completion of significant analytical studies supporting the construction of a poverty-level market basket. Additional information about the CPI is included in Technical Paper V.

Another data source that, on the surface, would seem to offer some assistance in incorporating geographic differences into poverty measurement are the standards used by the states in the program of aid to families with dependent children. An examination of these standards was made for this study to determine if they might be adapted for this use. These standards are, however, not comparable with one another. They exhibit great variations because of varying assumptions about family needs. State AFDC standards are also affected by state attitudes towards welfare spending as influenced, for example, by fiscal situations. The manner of constructing and maintaining these standards in each state is described in Technical Paper III.

The study also examined the major Federal data bases to determine if they might be used for adjusting the poverty cutoffs for geographic differences. Important aspects of the geographic sensitivity of the Consumer Expenditure Surveys are discussed in Technical Paper VIII; the other major data sources are described briefly in Chapter III and in detail in Technical Paper IX.

Major Conceptual Problems

The conceptual problems encountered in dealing with geographic differences in living costs are serious. A generally accepted market basket of goods and services representative of the needs of the poor in various geographic areas has not yet been developed. Moreover, there are inherent difficulties in deriving such a market basket due to differences in tastes as well as needs. Ideally, one would want to ensure that an individual would derive equal satisfaction from the various market baskets priced in different geographic areas. One example of the difficulties in ensuring equal satisfaction is given in the food component of the BLS budget. Regional variations are incorporated into the food-at-home component based upon regional consumption patterns as reflected in the U.S. Department of Agriculture's 1965 Household Food Consumption Survey. Larger weights are given to pork and lard in the South than in the Northeast, compared to larger weights for beef and butter in the Northeast versus the South. In order to argue that these weight variations based upon regional consumption patterns are valid for use in a geographic cost-of-living index, the following questions would need to be answered. Would a representative individual be equally satisfied with either the Southern or the Northeastern market baskets of food when the Southern basket contains more pork and lard and less beef and butter than the Northeastern basket? Or is it the case that the different consumption patterns in the Northeast and South might reflect differences in real incomes?

Without belaboring the point, it may be helpful to examine another example, given by the weight variations between the metropolitan and nonmetropolitan areas' market baskets in the intermediate budget for house furnishings. The market basket for persons living in metropolitan areas contains 1.44 sheets (i.e., the family purchases on the average 1.44 sheets/year) and the market basket for persons living in nonmetropolitan areas contains 1.30 sheets. There are probably many factors explaining why the empirical data show such a difference in spending patterns. For whatever reason, in order to use the family budget indexes to make cost-of-living comparisons, it is necessary to assume that an individual living in a nonmetropolitan area would be just as satisfied replacing his sheets less frequently than if he lived in a larger area and replaced his sheets more frequently. The intent of presenting the above two examples is to point out the theoretical problems and the implications of arbitrarily using consumption or expenditure data in the family budgets to adjust the area market baskets in order to make geographic cost-of-living comparisons.

Evidence of Geographic Differences

Evidence of geographic differences in living costs is sketchy and inconsistent. As noted previously, the most prominently mentioned source of data is the Bureau of Labor Statistics' Family Budgets. As stated earlier, these Budgets have certain inherent limitations which preclude their use as accurate measures of cost-of-living differences. They are published quarterly for 44 urban areas in terms of two hypothetical families and three levels of living. One family is a four-person family with a fully-employed father aged 38, a non-working wife, and two children aged 13 and 8; the other is a retired couple. The three levels of living are high, intermediate, and low. The total cost of the budgets is based on a market basket of goods and services theoretically consumed by the hypothetical families; the content of the baskets is based partly on needs standards, partly on observed consumption patterns, and partly on judgments by the BLS staff.

Table 12 indicates the range of the lower budget and shows that extreme variations occur in only a few cases. Two cities -- Honolulu and Anchorage -- obviously constitute special cases, and are thus omitted in commenting on the table. Using the U.S. average urban cost as a base of 100, the range for the total budget is from 88 in Austin to 108 in Boston and in San Francisco-Oakland. For food, the range is from 89 in Austin to 112 in New York-Northeastern New Jersey. For transportation, the range is from 84 in the New York area to 104 in Buffalo; but in the nonmetropolitan urban areas in the nation as a whole it is 123. The index for medical care ranges from 84 in Green Bay to 122 in Los Angeles-Long Beach. Personal income taxes range from 66 in Austin to 131 in Boston.

These budgets are based on different market baskets in each city. Table 13 shows family budget index numbers which result when there is no adjustment for regional consumption patterns, availability of public transportation, and climatic variations. The effect is to reduce inter-area differentials in consumption costs between the highest and lowest costs.

The factors in Table 13 are based on the intermediate budgets. It can be observed by comparing them to factors in Table 12 that inter-city variations are smaller at the lower than at the intermediate budget level. Thus, the measurement of geographic differences depends on the budget level. There is no published statistical series showing geographic differences at the poverty level, as currently defined.

For this study, differences in living costs were examined, based on readily available comsumption data, by the Economic Research Service of

Table 12. Indexes of Comparative Costs Based on a Lower Budget for a Four-Person Family, Autumn 1974 1/

(U.S. urban average cost=100)

Area	Total budget	Cost of family consumption											Personal income taxes
		Total consumption	Food		Housing		Transportation[4]		Clothing	Personal care	Medical care[5]	Other family consumption[6]	
			Total	Food at home	Total[2]	Renter[3]	Total	Automobile owners					
Urban United States	100	100	100	100	100	100	100	100	100	100	100	100	100
Metropolitan areas[7]	101	101	101	101	101	102	95	103	101	103	103	104	103
Nonmetropolitan areas[8]	94	95	94	96	93	89	123	92	94	87	87	81	87
Northeast													
Boston, Mass	108	106	104	105	119	175	97	118	98	101	96	106	131
Buffalo, N Y	101	101	101	101	99	97	104	106	111	101	88	106	106
Hartford, Conn	107	[illegible]	105	105	119	125	102	105	107	121	96	112	96
Lancaster, Pa	100	[illegible]	102	103	98	100	93	94	103	96	85	92	116
New York-Northeastern N J	107	106	112	111	104	105	84	107	100	101	110	114	118
Philadelphia, Pa -N J	103	100	108	107	91	90	91	111	95	100	101	105	128
Pittsburgh, Pa	97	96	101	100	89	87	95	95	95	101	87	101	109
Portland, Maine	103	104	102	102	115	117	94	97	101	100	95	108	94
Nonmetropolitan areas[8]	98	98	100	102	96	96	126	95	95	82	89	81	99
North Central													
Cedar Rapids, Iowa	96	95	91	90	99	100	86	89	111	106	88	101	105
Champaign-Urbana, Ill	103	103	98	99	114	119	91	94	115	99	98	99	106
Chicago, Ill -Northwestern Ind	104	104	103	104	107	110	101	120	100	108	105	108	107
Cincinnati, Ohio-Ky -Ind	94	95	102	103	85	84	91	95	99	95	87	104	91
Cleveland, Ohio	99	100	100	97	94	93	104	102	106	119	98	105	94
Dayton, Ohio	95	96	101	102	90	87	92	93	99	98	88	108	86
Detroit, Mich	99	99	103	102	90	91	98	99	101	108	103	104	101
Green Bay, Wis	96	95	91	92	99	97	89	93	107	104	84	98	112
Indianapolis, Ind	98	99	97	98	97	98	102	101	97	101	102	107	94
Kansas City, Mo -Kans	98	99	102	102	90	89	101	99	101	112	97	102	97
Milwaukee, Wis	101	99	94	94	104	107	97	94	106	106	94	103	122
Minneapolis-St Paul, Minn	102	99	98	98	98	99	94	97	109	107	93	104	128
St Louis, Mo -Ill	96	97	102	103	90	89	101	105	94	105	88	99	93
Wichita, Kans	95	96	97	97	95	94	93	95	99	104	95	101	88
Nonmetropolitan areas[8]	97	97	95	98	100	100	120	90	99	89	83	83	96
South													
Atlanta, Ga	94	95	96	96	92	89	92	94	96	104	95	106	80
Austin, Tex	88	91	[illegible]	88	83	77	93	97	100	102	95	102	66
Baltimore, Md	103	100	95	94	107	108	97	100	97	101	110	101	128
Baton Rouge, La	90	93	96	97	84	78	92	96	96	104	87	103	71
Dallas, Tex	91	94	90	87	87	84	96	98	93	103	114	104	71
Durham, N C	97	97	94	95	99	98	87	92	93	107	106	103	102
Houston, Tex	92	95	95	93	86	80	96	96	94	106	105	99	73
Nashville, Tenn	91	94	91	91	93	88	93	95	103	98	89	104	71
Orlando, Fla	96	98	91	90	110	113	94	95	90	91	106	103	78
Washington, D C -Md -Va	106	104	102	101	115	120	99	102	93	96	104	107	123
Nonmetropolitan areas[8]	89	91	91	92	87	78	121	91	89	87	86	81	74
West													
Bakersfield, Calif	95	96	94	94	92	91	97	102	97	102	110	91	74
Denver, Colo	97	98	98	98	91	87	95	97	117	98	94	98	97
Los Angeles-Long Beach, Calif	104	104	98	97	109	114	103	107	104	98	122	96	91
San Diego, Calif	101	102	97	95	103	107	102	106	106	99	118	95	87
San Francisco-Oakland, Calif	108	108	102	102	120	127	103	110	112	112	111	103	101
Seattle-Everett, Wash	105	107	104	104	113	115	99	104	113	106	106	103	92
Honolulu, Hawaii	124	120	120	124	143	153	108	115	101	113	105	106	160
Nonmetropolitan areas[8]	98	98	95	97	101	98	124	93	105	91	91	79	100
Anchorage, Alaska	149	143	122	127	189	209	159	119	122	123	157	100	202

SOURCE: Bureau of Labor Statistics, Monthly Labor Review (June 1975).

[1] The family consists of an employed husband, age 38, a wife not employed outside the home, an 8-year-old girl, and a 13-year-old boy.

[2] Housing includes shelter, housefurnishings and household operations. The higher budget also includes an allowance for lodging away from home city.

[3] Renter costs include average contract rent plus the cost of required amounts of heating fuel, gas, electricity, water, specified equipment, and insurance on household contents.

[4] The average costs of automobile owners and nonowners in the lower budget were weighted by the following proportions of families: Boston, Chicago, New York, and Philadelphia, 50 percent for both automobile owners and nonowners, all other metropolitan areas, 65 percent for automobile owners, 35 percent for nonowners; nonmetropolitan areas, 100 percent for automobile owners. The intermediate budget proportions are: Boston, New York, Chicago, and Philadelphia, 80 percent for owners, 20 percent for nonowners, Baltimore, Cleveland, Detroit, Los Angeles, Pittsburgh, San Francisco, St. Louis, and Washington, D.C. with populations of 1.4 million or more in 1960, 95 percent for automobile owners and 5 percent for nonowners, all other areas, 100 percent for automobile owners. The higher budget weight is 100 percent for automobile owners in all areas.

[5] In total medical care, the average costs of medical insurance were weighted by the following proportions: 30 percent for families paying full cost of insurance, 26 percent for families paying half costs, 44 percent for families covered by noncontributory insurance plans (paid by employer).

[6] Other family consumption includes average costs for reading, recreation, tobacco products, alcoholic beverages, education and miscellaneous expenditures.

[7] As defined in 1960-61. For a detailed description of these and previous geographical boundaries, see the 1967 edition of **Standard Metropolitan Statistical Areas**, prepared by the Office of Management and Budget.

[8] Places with population of 2,500 to 50,000.

Table 13. Family Budget and Fixed Weight Indexes of Family Living Costs, Autumn 1974

Area	Family budget indexes		Fixed weight indexes	
	Total costs (including income and social security taxes)[1]	Consumption costs[2]	Consumption costs adjusted for climate[3]	Consumption costs not adjusted for climate[4]
	Index 1	Index 2	Index 3	Index 4
U.S. urban average costs	$14,333	$10,781	$10,880	$10,915
Urban United States	100	100	100	100
Metropolitan areas[5]	102	102	102	102
Nonmetropolitan areas[6]	90	91	92	92
Northeast:				
Boston, Mass	117	114	113	113
Buffalo, N.Y	107	105	103	102
Hartford, Conn	108	111	109	109
Lancaster, Pa	99	98	95	95
New York-Northeastern N.J	116	114	113	113
Philadelphia, Pa.-N.J	103	101	100	100
Pittsburgh, Pa	97	96	94	94
Portland, Maine	103	104	101	102
Nonmetropolitan areas[6]	99	99	97	98
North Central:				
Cedar Rapids, Iowa	98	97	96	95
Champaign-Urbana, Ill	102	102	102	101
Chicago, Ill.-Northwestern Ind	103	104	104	104
Cincinnati, Ohio-Ky.-Ind	96	97	96	95
Cleveland, Ohio	102	103	103	102
Dayton, Ohio	93	95	94	94
Detroit, Mich	100	101	101	101
Green Bay, Wis	99	96	95	94
Indianapolis, Ind	99	100	99	98
Kansas City, Mo.-Kans	97	98	97	96
Milwaukee, Wis	105	101	100	99
Minneapolis-St. Paul, Minn	104	98	98	97
St. Louis, Mo.-Ill	97	97	97	96
Wichita, Kans	93	94	93	94
Nonmetropolitan areas[6]	92	92	93	92
South:				
Atlanta, Ga	91	93	94	95
Austin, Tex	86	90	91	92
Baltimore, Md	100	97	99	99
Baton Rouge, La	90	93	95	95
Dallas, Tex	90	93	95	95
Durham, N.C	97	96	98	98
Houston, Tex	90	93	94	95
Nashville, Tenn	91	94	95	95
Orlando, Fla	89	92	94	97
Washington, D.C.-Md.-Va	105	103	102	102
Nonmetropolitan areas[6]	86	88	90	90
West:				
Bakersfield, Calif	91	92	91	92
Denver, Colo	95	95	95	94
Los Angeles-Long Beach, Calif	98	99	99	100
San Diego, Calif	98	98	98	99
San Francisco-Oakland, Calif	106	106	106	106
Seattle-Everett, Wash	101	104	104	105
Nonmetropolitan areas[6]	90	90	91	91
Honolulu, Hawaii	119	115	115	116
Anchorage, Alaska	133	130	132	131

SOURCE: Bureau of Labor Statistics, Monthly Labor Review (June 1975).

[1] Indexes reflect differences in average prices, variations in budget items and quantity weights associated with differences in food consumption patterns, climate, availability of public transportation, and life styles in metropolitan and nonmetropolitan areas. Total cost indexes also reflect differences in Federal, State, and local income tax requirements.

[2] Consumption costs equal total cost minus personal income taxes, social security taxes, and other nonconsumption items. These indexes reflect all remaining sources of variation.

[3] The fixed weight structure excludes region, transportation, and city size variations. These indexes calculated from costs of constant market basket for urban family of 4 persons, reflect only average price levels and climatic requirements.

[4] Calculated from costs of constant market basket for urban family of 4 persons. No adjustments were made for climate. Indexes reflect only differences in average price levels.

[5] As defined in 1960-61. For detailed description of these geographical boundaries, see **Standard Metropolitan Statistical Areas**, Executive Office of the President, Bureau of the Budget, 1967.

[6] Places with 2,500 to 50,000 inhabitants.

the Department of Agriculture. The following summary is excerpted from the report, which is reproduced as Technical Paper XV:

> Analysis of the 1965 Household Food Consumption Survey suggests that the key issue concerning differentials in food expenditures between urban and rural areas was home-produced food. This, of course, was the central argument for the original farm differential in the current poverty threshold. Producing food at home does involve costs, both direct cash outlays and indirect opportunity costs, or the income possibilities foregone by committing land, labor, or capital resources to home production. Two pricing systems were used in an attempt to capture these costs. When home-produced food was valued at retail prices, or what would have been spent for the same food in a retail store, there was only a 7 to 8

percent difference in expenditures between urban and rural families. Valuing food at farm prices increases the differential between urban and rural nonfarm families to 10 percent, and to 20 percent between urban and farm families.

The meager data available suggest that there is no appreciable difference in clothing expenditures between urban and rural families. For example, all families have access to clothing of similar quality at similar prices through mail-order catalogs. Families in rural areas also shop in stores similar to those used by urban families. Data are not available to isolate the effect of urbanization on clothing needs. Regional variations in clothing expenditures also appear to be minimal. The only available survey data (as of July 1975) for answering this question are from the 1960-61 CES, which are quite outdated. Part of the lack of regional variations in clothing expenditures can be attributed to the wide climatic variations within regions.

Housing was one area in which considerable residential variation occurred both by region and by urbanization. In terms of shelter (rents and value), there was little difference in median outlays between many rural areas and urban places of 2,500 to 50,000 population. Within some regions, rural housing was more costly than in central city areas. Among regions, housing outlays tend to be lower in the South. Median values and rents appear to be about 20 percent higher in metro than in nonmetro areas. However, rental units are less prevalent outside cities. Financing arrangements also affect ownership costs. In rural areas, repayment periods are shorter and interest rates are higher on home loans.

Housing outlays for maintenance, repairs, and improvements are lower in nonmetro areas. However, these expenditures are not always lower than similar outlays in central cities of SMSAs, particularly in the Northeast and West. Utility costs are also an important factor in housing differentials. Rural households heat more often with L-P gas, a high price fuel, and less often with natural gas. There is little information, however, on how this might affect housing differentials.

There is little hard evidence that transportation costs are considerably higher in rural areas. Rural households do travel more miles, but with less stop and go driving, they tend to get better mileage. The biggest difference in the transportation situation between rural and urban families is the lack of public transportation in rural communities.

The lower tax rates evidenced in nonmetro areas appear to carry with them lower quantity and quality community services, especially those special services vitally important to low-income people. Research in this area is sketchy, but one recent study suggests that the real costs of services in rural America are much higher than direct outlays might suggest. Health care is a good example. The shortage of physicians is more acute in rural areas; patients tend to drive longer distances to obtain health services, emergency health services are more likely to be deficient, work-related injury rates are higher, and a comprehensive approach to health care delivery is less likely to be present.

The Department of Health, Education, and Welfare and the Federal Energy Administration explored the effect of rising home-heating costs on the lower income population. The results showed large variations in home-heating expenses paid by households in different areas. Also, energy price increases varied. These variations are due to differences in climate, housing characteristics, and types and prices of fuel used.

Living costs can appear to be lower in rural than nonrural areas as a result of confusing farm with rural residence, and cost of living with source of income. Farm residents are often assumed to save money by home production of food. But many nonfarm families in rural and nonrural areas also grow food. Special studies reported in Technical Paper XV show that for each income class rural food expenditures were lower, although there did not appear to be differences in food prices.

Living costs appear to be lower in the Southern region than in other regions. Differences may stem from income and expenditure patterns rather than prices. Income levels are generally lower and poverty rates higher in the South than elsewhere. It should be added that differences in living costs between cities within a region, even within the same state, are frequently quite significant.

Shelter costs seem to be lower in rural areas and in the Southern region than elsewhere. The pattern is less clear when comparing shelter costs in rural and metropolitan areas to those in small cities and in central city areas of SMSAs. Patterns then vary among the regions. The lower rural and Southern cost of housing may be due to differences in quality or characteristics of the housing.

Farm-Nonfarm Differences

The Orshansky measure does not recognize any geographic differences except for the differences between farm and nonfarm households. The poverty thresholds for farm families are set at 85 percent of the nonfarm threshold for each family type. (Until 1969, the farm thresholds were only 70 percent of the nonfarm.) This distinction is not based on measured differences of need but rather on assumed cost savings from home-produced food. With greater home production of food in nonfarm areas and less on farms, this difference may diminish significantly. Furthermore, there is some question about the appropriateness of singling out income differences based on home production of food when other income differences like employee and in-kind benefits may represent significant income advantages to nonfarm families. A Federal Technical Committee in 1973 recommended that the farm-nonfarm distinction be dropped from the official poverty matrix.

The Census Bureau has recently redefined a farm as a food-producing property with annual food sales in excess of $1,000. Using this definition will significantly reduce the number of farm households counted as poor in Census tabulations. (Many of them will be counted as poor under the nonfarm residence classification.)

Attempts to Overcome Conceptual Problems and Data Limitations

In addition to examining the BLS Family Budgets and the state welfare standards of need, other studies were undertaken to aid in overcoming limitations of existing data sources.

Data used by the BLS for the Family Budget series were compared with annual data collected by the Department of Agriculture for use in computing the index prices for farmers. However, quality control was a serious problem in comparing data for items priced by both agencies. Furthermore, the number of items which did match, given the quality control problem, was too small to support the derivation of valid global results. This attempt to match the two data sources is described in Technical Paper XV.

A common notion is that living costs are highly correlated with prevailing income levels. Thus, a person may be willing to live in a city with high housing or transportation costs if he knows that his income is higher than it would be if he moved to another city. Likewise, prices may be higher because incomes are higher. The correlation between living costs and income was tested in a study reported in Technical Paper XIII. The two data sets were not strongly correlated; only forty percent of the variation in income levels was statistically explained by the cost of living data. The test of correlation was repeated by comparing the median family income in the cities to the cost of housing (as measured by the shelter component in the BLS family budgets). Again, the correlation between the two data sets was not strong. The relatively low correlation and limitations in the budget data used for verification indicate that Census median income should not be used for a measure of cost-of-living differences without further study.

Updating the Standard

It may be desirable to change the level of any poverty measure from time to time. Relative measures appear to have an implicit mechanism for updating but, like the absolute definitions, the level must be revalidated. One possible method of updating the current poverty matrix, discussed earlier in this chapter, is to use more recent data on food consumption and nutritional needs than were used in the original construction. Such consumption surveys have been conducted at approximately ten-year intervals and nutrition standards are revised only once every five years. Therefore, a simpler and more practical method of updating more frequently is required. Initially the poverty cutoffs were updated by the annual percentage increase in the cost of the economy food plan calculated by the Department of Agriculture using food prices paid by survey households updated by changes in prices of about 100 foods collected monthly by the BLS. Since 1969 the poverty cutoffs have been increased each year by the annual percentage increase in the Consumer Price Index.

The use of the Consumer Price Index as the updating mechanism for the poverty lines has been the subject of some disagreement among analysts. Those favoring it cite its convenience (it is readily available) and widespread acceptance as an index of rising living costs. Those objecting to it note that it is based on consumption patterns of urban wage and clerical workers and on price changes of goods and services purchased by such workers. These may differ from consumption patterns of, and price changes affecting, the poor, since it is believed that the poor spend greater proportions of their incomes on food and housing. It has been proposed that a special index, a poor person's index, be constructed by reweighting the price changes for food, housing, and other items in the Consumer Price Index. Since consumption patterns also differ according to other demographic characteristics such as age, race, and sex, there have also been proposals to create price indexes for special subcomponents of the poverty population or of the population as a whole, such as the aged or the aged poor.

Table 14 shows examples of special price indexes which have been crudely constructed to examine the distributional impacts of inflation.

Technical Paper V contains a more complete discussion of these indexes, including a description of the methodology used for their construction. As shown in Table 14, the special price indexes were generally very close to the Consumer Price Index until 1972, with some tendency for the price indexes for the low-income groups to rise at a slower rate prior to 1967. During the recent period of rapid inflation, however, when price increases for food and housing outpaced the increases for other items, the price indexes for the low-income groups increased at a faster rate than the Consumer Price Index or the price index for the wealthy (families with incomes above $10,000 in 1960-61).

In the absence of direct information, current attempts to construct measures of price changes directly affecting the poor (e.g., Table 14) have consisted of reweighting expenditure categories to allow for the fact that families with low incomes must allot larger shares of their funds to necessities such as food and housing than households less restricted by lack of funds. As a general rule, differences in actual items brought and in point of purchase -- that is, individual items selected and kind of store patronized -- may be more important in the overall price picture than the weights attached to family living categories. But the recent disparate rise in prices of food compared to prices of other commodities reveals another difficulty in settling on and updating a poverty reference standard -- namely what is an appropriate starting point?

While a suitable price index for the poor may require a different market basket -- or at least a different assignment of category weights -- than for the population at large, the impact on the poor of price changes

Table 14. Comparison of Consumer Price Index with Price Indexes for Special Groups, 1953-1975

Year	Consumer Price Index	Price Index for:								
		All Poor	Aged Poor	Rural Non-Aged Poor	Rural Aged Poor	Urban Non-Aged Poor	Urban White Poor	Urban Non-White Poor	Wealthy	Low-Income Retired
1953	80.1	81.8	82.1	82.2	83.4	81.7	81.3	82.1		
1954	80.5	82.2	82.7	82.2	83.5	82.1	81.8	82.5		
1955	80.2	82.0	82.8	81.8	83.3	81.9	81.6	82.3		
1956	81.4	83.2	83.9	82.8	84.4	82.9	82.8	83.5	80.0	
1957	84.3	85.6	86.3	85.4	87.1	85.4	85.3	85.8	--	
1958	86.6	88.0	88.7	87.9	89.7	87.7	87.6	88.1	86.0	
1959	87.3	88.4	89.2	88.4	90.1	88.1	88.2	88.5	--	
1960	88.7	89.7	90.5	89.5	91.4	89.5	89.6	89.9	88.4	88.3
1961	89.6	90.6	91.5	90.3	92.3	90.3	90.3	90.7	--	89.3
1962	90.6	91.5	92.2	91.2	93.0	91.3	91.2	91.5	--	90.3
1963	91.7	92.8	93.4	92.4	94.1	92.5	92.4	92.7	--	91.5
1964	92.9	93.7	94.4	93.4	95.2	93.5	93.5	93.7	93.1	92.7
1965	94.5	95.1	95.9	94.9	96.6	94.9	95.0	95.1	94.5	94.2
1966	97.2	98.1	98.5[a]	97.8	98.9[a]	97.8	97.8	98.0	97.3	97.3
1967	100.0	100.0	100.0[a]	100.0	100.0[a]	100.0	100.0	100.0	100.0	100.0
1968	104.2	104.2	--	--	--	--	--	--	104.2	104.2
1969	109.8	110.0	--	--	--	--	--	--	109.7	109.9
1970	116.3	116.6	--	--	--	--	--	--	116.1	116.5
1971	121.3	121.3	--	--	--	--	--	--	121.0	121.5
1972	125.3	125.7	--	--	--	--	--	--	124.9	125.3
1973	133.1	135.3	--	--	--	--	--	--	132.5	134.7
1974	147.7	151.3[b]	152.1[a,b]	--	--	--	--	--	147.0[b]	150.5
1975[c]	158.3	162.3[b]	163.5[a,b]						157.2[b]	161.8[b]

SOURCE: Monthly Labor Review (August 1975), Tables 22 and 23 for Consumer Price Index.

Unpublished study by the Social Security Administration for the price index for the low-income retired.

Robinson G. Hollister and John L. Palmer, "The Impact of Inflation on the Poor and the Implicit Tax of Inflation and Unemployment: Some Policy Implications," in Kenneth E. Boulding and Martin Pfaff, ed., Redistribution to the Rich and Poor: The Grants Economics of Income Distribution (Belmont, California: Wadsworth Publishing Co., 1972), Tables 4 and 5 for the other price indexes, 1953 to 1967.

John L. Palmer and Michael C. Barth, "The Impacts of Inflation and Unemployment: With Emphasis on the Lower Income Population," Technical Analysis Paper No. 2, Office of Income Security Policy, Office of the Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare (October 1974), Table 2, for the price index for all poor and for wealthy, 1967 to 1973.

[a] Adjusted for Medicare.

[b] Calculated from expenditure weights reported in above sources and component price indexes in Monthly Labor Review (August 1975), Table 23.

[c] Average for January-June 1975.

over a specified time period can still be approximated adequately by an index for the general population, such as the CPI. It is essential, however, that the prices for different commodities move up or down at approximately the same rate. Food prices play a larger role in the spending of the poor, because food outlays normally comprise a larger share of total outlays for low-income families than for other families. It is also apparent that increases in outlays for non-food items because of higher rent prices or costs of a medical emergency, for example, may cause a family to spend less on food.

Over long periods the food component of the Consumer Price Index has moved at more or less the same pace as the bundle of remaining items. However, for a variety of reasons, in recent years the food component has escalated much faster, reaching a peak in the period 1973-74. Trends in food and non-food components of the CPI are illustrated below.

Year	Indexes (1963=100)			Year-to-Year Change (percent)		
	All Items	Food	Nonfood	All Items	Food	Nonfood
1959	95.2	95.5	94.9	0.8	-1.6	1.9
1963	100.0	100.0	100.0	1.2	1.4	1.3
1969	119.7	119.4	119.7	5.4	5.1	5.5
1970	126.8	126.0	126.8	5.9	5.5	6.0
1971	132.3	129.8	132.7	4.3	3.0	4.6
1972	136.6	135.4	136.7	3.3	4.3	3.0
1973	145.1	155.0	142.1	6.2	14.5	3.9
1974	161.1	177.3	156.2	11.0	14.4	9.9
1975	175.8	192.3	170.8	9.1	8.5	9.3

Late in 1974 the U.S. Department of Agriculture revised its low-cost food plan. Late in 1975 the Department replaced the economy food plan, formerly 80 percent of the cost of the low-cost plan, with a new thrifty food plan. Since these food plans are more adapted to the food consumption patterns of families with limited amounts to spend than are the moderate or liberal food budgets, these plans are more suitable for use in developing a poverty criterion. The costs of these plans for families of different size, estimated as of December 1974, provided one basis for updating and refining the official measure in use for the year 1974. On the other hand, the estimated costs of these plans, based on family food patterns and choices in 1965, were affected already by the exceptionally high prices of food prevailing in 1974.

In order to analyze the effect of these high prices on the development of revised Orshansky poverty lines, the revised low-cost plan was priced back to December 1972, when food prices stood in a more typical relationship to other prices. In the case of the new thrifty plan, which did not exist prior to September 1975, an approximated equivalent was also priced back to December 1972. By December 1975, the food plan costs showed signs of dropping back to a smaller annual rate of increase. Trends in the cost of the revised USDA food plans are as follows:

	Monthly Cost Per-Person		Year-to-Year Change (percent)	
	Thrifty Equivalent	Low-Cost Plan	Thrifty Equivalent	Low-Cost Plan
Dec. 1972	$28.09	$36.45	----	----
Dec. 1973	34.48	43.85	22.7	20.3
Dec. 1974	39.40	50.17	14.3	14.4
Dec. 1975	40.96	53.00	4.0	5.6

While food prices particularly affect the poor, trends in cost of homeownership are more important to the nonpoor than to the poor, who largely rent their housing. Also, in recent years, the costs of homeownership have increased much more than the costs of rent, in spite of the fact that the trends in these costs have been similar for long periods. By 1975, the normal relationship between trends in food and nonfood costs, and between rent and homeownership appears on the way to being restored. Still, it is difficult to determine the longrun impact of energy costs on prices, and the way in which these will affect the poor and nonpoor segments of the population.

It is clear that the Orshansky poverty measure, using the cost of a food plan as its core, will be higher if priced out at 1974 costs before applying the multiplier, than it would be if the food prices of 1972 were used as the base and the measure moved forward by the change in the overall CPI. The first procedure, illustrated in Table 8, would incorporate the recent escalation of food permanently into the measure. The latter would understate the food cost situation in 1974, but would subsequently reflect a more typical relationship between food and nonfood price trends. The pending revisions in the CPI based on 1972-73 expenditure patterns, when completed in 1977, may render both options obsolete.

Calculating the new poverty lines on the basis of the new food plan costs at 1974 prices is tantamount to computing income cutoffs priced as of 1972 and moving them forward year by year corresponding to changes in the food plan cost estimates, a procedure originally used with the present poverty line but abandoned in favor of change in the all-items CPI. It happens also to be true that 1974 was an unusual year in that median real income of American families declined by about four percent from 1973, one of the largest single year declines since income data were first collected in the CPS in 1947.

Developing the updated criteria for 1974 by using 1972 food plan costs and moving them forward to 1974 by applying the 17.9 percent change in the average all-items CPI from 1972 to 1974 is one way to avoid distorting the income needs criteria with the atypical food price spiral or the decline in income. Until the CPI itself is revised on the basis of a more current market basket, the present index -- based on expenditure patterns prevailing in 1960-61 -- may parallel the market basket of a low-income family more closely than originally intended.

Such alternative calculations of a revised poverty matrix and their resultant effect on the poverty counts appear in Technical Paper XI. The figures below illustrate the lower poverty lines resulting from the use of 1972 rather than 1974 as the base year. Based on the thrifty plan equivalent cost in 1972, and raised by 17.9 percent to conform to the rise in the monthly average rise in the CPI between 1972 and 1974, the new poverty cutoff for 1974 for a two-person family with an elderly head is $3,644, or 23 percent more than the currently used figure of $2,958. By contrast, when derived directly from the 1974 thrifty food plan itself, the 1974 poverty line for an elderly couple, as shown in Table 8, is $4,324 or 46 percent higher than the current official measure.

	Poverty Income Criteria in 1974 Based on:			
	Official Criterion	Thrifty Plan or Equivalent	80 percent of Low-Cost Plan	Low-Cost Plan
Elderly couple	$2,958	$3,644	$3,791	$4,739
4-Person family	5.008	5,344	5,544	6,930
	Population Counted Poor in 1974 (millions)			
Persons	24.3	31.4	32.6	44.3
Families	5.1	6.6	6.9	9.9
Unrelated individuals	4.8	6.9	6.9	8.0
Children 5-17 in families	7.5	9.0	9.4	12.7

Obviously, the total number of households or persons counted poor for the year 1974 decreases too, if the lower new poverty lines are used, but the count still continues substantially above the 24.3 million identified as poor by the unrevised official measure now in use.

It is sometimes proposed that the poverty cutoffs be updated separately by geographic area. This might appear feasible since the Consumer Price Index is published for 24 different cities, the nonmetropolitan areas of four regions and five "size of place" areas. However, the city indexes are not comparable because they are based on different market baskets for each city, and the regional indexes at most reflect price increases within smaller cities but not the rural areas.

Income and Resources

General Limitations

Poverty measurement can be affected by changing the definition of income. This chapter explores empirically the effects of some changes in income definition. Attention initially focuses on the Census Bureau's definition of income, which is currently used in connection with the Orshansky poverty matrix.

The Bureau of the Census uses a measure of regular, total, before-tax, money income. It includes money earned by labor and through property ownership, as well as funds received from government cash transfer programs (such as Social Security, veterans' payments or AFDC), private pensions and annuities, and alimony and regular contributions from persons not in the household. It does not include irregularly received lump sum income, such as capital gains, tax refunds, earned income tax credit, and prize money, and it does not include income from illegal sources like theft. It also excludes in-kind income, employer-paid fringe benefits, the value of assets not providing current income streams, imputed services from owner-occupied housing and consumer durables, home production (such as child care services), and undistributed corporate profits. The Census also measures income over the time period of a year and excludes data on income in previous years as well as data on income variations within a year.

It is difficult to modify the definition of income for statistical purposes given the general lack of regularly collected income or resource information associated with social and demographic characteristics in any form other than that used by the Census Bureau in its income definition. Thus, changes in the definition of income for statistical purposes could require either an expanded Current Population Survey (which is unlikely because the March CPS questionnaire is already very long) or the use of arbitrary imputation techniques involving computer simulations with various data sources.

The Accounting Period

Although measures of income are currently based on annual information which does not allow for pre-year or intra-year fluctuations, measures based on information collected more or less frequently would also have problems. For example, measures based on information collected over periods as short as a month would be very sensitive to temporary income changes, while measures based on information collected over periods longer than one year would incorporate recall difficulties.

The effect of the accounting period on the count of the poor population is considerable. In general, a short accounting period includes more people with large variance in income over time while a long accounting period includes fewer people but relatively more people with steady but low incomes. Technical Paper VI, which used the University of Michigan Panel Survey data, found that a one-year accounting period produces a significant increase in the number of self-employed among the poor when compared with multi-year periods. Only about 3-1/2 percent of the self-employed were poor under a five-year accounting period, but 16 percent were poor for at least one year of the five years with an annual definition. No other group experienced increases of this magnitude, however. The groups with the greatest incidence of poverty, such as nonwhites, the aged, and female-headed families, show the smallest increases in poverty rates with a shortened accounting period.

The study also found that 31 percent of those who were poor in 1972, using an annual definition, would have been considered non-poor if a five-year definition had been used. On the other hand, 17 percent of those poor under the five-year definition would have been non-poor in 1972.

One source of data on monthly fluctuations in income is the records of the income maintenance experiments, which provide payments to low-income families. With these data it is possible to illustrate the potential impact of using monthly, rather than annual, income to define poverty. Table 15 shows the number of months different families, whose annual income in 1970 (prior to receiving income supplement payments) was above or below the poverty cutoff, were poor on a monthly basis in one experimental site (Denver). (Because these data reflect monthly adjustments for family size as well as income, 1.4 percent of poor families are portrayed as having spent no months in poverty and 0.4 percent of the non-poor families are portrayed as having spend 12 months in poverty.) These data show that people with annual incomes below the poverty cutoff were most likely to be in poverty over half of the 12 months and 85 percent of them were poor for 6 months or more. Only 52 percent were in poverty all 12 months. On the other hand, 70 percent of the non-poor families were never poor on a monthly basis and 88 percent were in poverty 3 months or less. Nearly 96 percent were below poverty 6 months or less, and about 3 percent were in poverty 6 months or more.

Assets

The lack of any regularly conducted survey dealing with assets also makes it exceedingly difficult to adopt a wealth or asset concept for statistical purposes. Including assets in the definition of income would decrease the number of poor counted if no compensating change were made in the threshold.

Technical Paper VI, prepared for this study on the basis of the University of Michigan Panel Study, which followed 5,000 families for six years, shows that the inclusion of income from imputed rent from homeownership reduced the annual size of the poverty population by about 16 percent. When income was defined to include all liquid assets, the poverty population was reduced by 18 percent. When a definition of income was used that included net worth available to meet consumption

Table 15. Distribution of Families by Number of Months in Poverty on a Monthly Basis by Poverty Status on an Annual Basis, 1970

Annual Poverty Status	Total	Number of Months in Poverty[a]												
		0	1	2	3	4	5	6	7	8	9	10	11	12
Poor	100%	1.4	1.2	1.8	0.7	2.6	3.2	3.9	6.3	6.5	8.6	5.5	6.2	52.1
Nonpoor	100%	70.1	7.3	6.3	4.7	3.6	2.2	2.1	1.2	1.1	0.6	0.2	0.1	0.4
All Families	100%	53.8	5.9	5.2	3.7	3.3	2.5	2.5	2.4	2.4	2.5	1.5	1.5	12.8

SOURCE: Special tabulations of families in the Denver Income Maintenance Experiment.

[a] Poverty status based on a monthly accounting period.

requirements, 41 percent of those poor under the current income definition became non-poor.

When one looks at the effect on various groups, the self-employed and the aged had a far greater incidence of poverty under a simple income definition than they did when the definition included other kinds of wealth. Nonwhites, families with school-age children, and the employed but non-self-employed were affected least when net worth was included in the income definition; these groups are the least likely to have assets.

Taxes

Federal income taxes have only a minor statistical impact on poverty measurement. This is because Federal tax liability was revised to exclude most persons counted poor by the current measures. The standard deduction of $1,300 coupled with a $750 exemption for each family member results in exempting a large proportion of the earned income of the poor.

Technical Paper XVII discusses the result of using income, from which Federal income taxes have been subtracted, as a measure of income. After-tax income does increase the number of people counted as poor, but the increase is not very great. Demographic characteristics of this larger group are highly correlated with those of the poverty population with the standard before-tax concept.

One important tax affecting the poor is the payroll deduction for Social Security benefits. A computer simulation using the March 1975 Current Population Survey estimates that excluding from income the 5.85 percent tax on earnings would have increased the number of officially poor by 1.27 million persons in 1974. These calculations do not include the impact of the earned income tax credit (enacted in 1975). Below the level of the Federal tax systems, the incidence of state and local taxes (property, income, sales, gasoline) varies significantly and is difficult to determine.

In-Kind Income

Estimates of poverty reduction for food stamps are generally better than for other in-kind benefits. Inclusion of the bonus value of food stamps in income reduced the poverty population in 1974 or earlier years by about 5 to 15 percent. Furthermore, families with large numbers of children would be affected more than other family types because of their higher participation rates in the food stamp program.

Technical Paper VII describes a number of studies which evaluate the effects of in-kind income on poverty counts. These studies suggest that poverty counts will be reduced significantly if in-kind transfers are included in household income and no change is made in the poverty threshold.

Consumption Unit

Under current practice, the poverty status of a person 14 years of age or older who does not live with a relative is wholly determined by the income of that person. The poverty status of a person who lives with one or more relatives is determined by the income of that person plus the income of those relatives with whom he or she lives. Because income questions are not asked of persons under 14 years of age, unrelated individuals in this age group have neither family income nor income of their own, and are excluded from the poverty universe. Table 16 indicates what would happen to poverty counts if the current family concept were replaced with a household concept, i.e., all household members treated as if they were related. The table shows that about one million unrelated individuals who are now considered poor would not be considered poor under the household concept. The revised concept would also shift about half a million family members from poor to non-poor. The use of a household concept implicitly assumes that all household members pool their resources. The results of this analysis depend on the amount of pooling of resources and consequent economies of scale under various living arrangements. The assumption is most reasonable in the case of young unrelated individuals living with a family, but it may not be as reasonable for certain other living arrangements, e.g., several unrelated individuals living together. Technical Paper X contains a more complete treatment of this subject. In addition, the notion of "potential for independent living on one's own income" has been used by Orshansky and the Social Security Administration. There are about 1.3 million other relatives living in non-poor families who would be classified as poor if they were unrelated individuals.

Table 16. Poverty Status in 1974 Based on the Current Definition and a Definition Based on Household Income (In millions)

Persons by Age, Sex, Relationship to Head of Household, and Household Composition	Total (1)	Poor By Current Poverty Definition (2)	Poor By Definition Based On Household Income (3)	Difference In Number Of Poor Persons (3)-(2)
All persons (except unrelated individuals under 14 yrs. of age)	209,343	24,260	22,678	-1,582
All family members	190,471	19,440	18,920	-520
All unrelated individuals	19,100	NA	3,791	NA
Under 14 years of age	229	NA	34	NA
14 years of age and older	18,872	4,820	3,758	-1,062
All unrelated individuals 14 years of age and older:				
14 to 17	148	134	21	-113
18 to 24	2,817	814	405	-409
25 to 64	9,413	1,812	1,412	-400
65 and older	6,493	2,059	1,920	-139
Males:				
Living with a family	560	225	52	-173
Living with unrelated individuals	2,413	536	201	-335
Living alone	4,918	840	840	0
Females:				
Living with a family	336	205	27	-178
Living with unrelated individuals	1,634	569	193	-376
Living alone	9,021	2,445	2,445	0

SOURCE: Special tabulation of the March 1975 Current Population Survey.

V. ALTERNATIVE POVERTY COUNTS BASED ON AVAILABLE DATA

This chapter investigates the effect of some alternative poverty measures on the statistical description of poor populations. 1/ It deals with the poverty cutoffs, not with the definition of income. In Chapter IV, it was shown that modifying the income definition by including some cash equivalent value of in-kind benefits or assets would lower the poverty count if the poverty cutoffs were not simultaneously changed to be consistent with the new income definition. Similarly, poverty counts would be reduced if underreporting of cash income were corrected in the Census and CPS surveys, or if irregular cash income were counted. However, these commonly proposed changes to the definition of income cannot be incorporated into the poverty measure without modifying the Census or CPS surveys or developing new surveys from which to derive a poverty count. Furthermore, the statistical effect of these modifications is not approximated by simple adjustments of the poverty cutoffs, such as by lowering them, because subgroups of the poor population are affected differently by changes in the income definition. For example, the income of the elderly would probably be raised more by the inclusion of the value of assets than would the income of young family heads.

The change which is most commonly proposed in connection with the poverty cutoffs is to raise them. This reflects a presumption that the standard of living, however defined, has risen in this country since the official poverty level was originally established. Also, it is not generally believed that U.S. citizens need less now than they did in the past. These notions are implicit in such proposals as: revising the Orshansky matrix on the basis of current food plans and consumption patterns; identifying the lowest quintile of the income distribution as the poverty income level; setting the poverty level at 50% of median income; using public opinion polls to determine a generally accepted level of income adequacy; or using the lower BLS family budget as a poverty budget. Similarly, most administrative adaptations of the poverty line in Federal programs have the effect of enlarging the population of program beneficiaries beyond those identified as poor by the official poverty measure.

However, not all commonly proposed changes to the poverty cutoffs or income definition can be linked simply to higher or lower poverty counts. For example, if the thrifty food plan were used as a basis for the poverty cutoffs, but without simultaneously raising the ratio of income-to-food costs, the cutoffs for some families would be lowered and others raised. Similarly, if poverty cutoffs were annually updated using a price index based on food or on items in a special poor person's index, rather than on the Consumer Price Index, the poverty cutoffs could be higher in some years and lower in others than the current cutoffs. Presumably, geographic adjustments to the poverty cutoffs would raise them in some places and lower them in others; removing the current adjustment for farm residence would raise the poverty counts only slightly. Simplifying the current poverty matrix by removing distinctions for sex of head and presence of children would affect the poverty status of families according to sex and age of family members. If Federal or state and local income taxes, Social Security payroll deductions, or other taxes were excluded from the income definition (and the poverty cutoffs were not simultaneously changed), the poverty count would be increased, although this could be offset if the Federal tax credit for earned income were counted as income. Changing the definition of family or using households rather than families as accounting units could raise or lower the count depending on the change made. Applying a recently proposed index of employment and earnings inadequacy and a price index for the elderly might cause poverty counts of these groups to differ from counts under a single national poverty measure.

It is not practical to describe here the statistical effects of adopting all of the variously proposed alternative measures. Of the many possibilities, the analysis here considers four groups of definitions totalling 13 specific alternatives (the current poverty measure and 12 others selected for analysis by the Poverty Studies Task Force). These were selected because: they can be studied with readily accessible data; they are similar to administrative poverty measures or income eligibility criteria currently used in Federal programs; and they can be used to approximate the effects of adopting some concepts discussed in the earlier chapters.

Alternative Poverty Definitions

The four broad groups of alternatives are: simple proportionate increases or decreases of the current poverty matrix, simplifications of the current poverty matrix, single-dollar thresholds, and relative measures based on median income. The current poverty measure was also included to provide a point of reference against which the other measures could be compared.

The first group consists of four matrixes derived by multiplying each of the cutoffs in the official poverty matrix for 1974 (shown in Chapter I, Table 1) by 75 percent, 125 percent, 150 percent, and 200 percent. One reason for the selection of these cutoffs was to demonstrate the importance of the level of the poverty thresholds, compared to that of adjustments for residence and family composition (analyzed in the next set of alternatives) in determining the poverty population. Also, some Federal programs, such as those of the Department of Agriculture, define eligibility on the basis of simple proportional increases in the official poverty cutoffs. Furthermore, as noted earlier, many commonly proposed poverty measures have the effect of raising the poverty income levels. The statistical effect of such changes can be approximated by reference to one of the higher sets of poverty cutoffs included here. A poverty line set at 75 percent of the current threshold is also shown. This information is provided to identify those groups of people who are most severely in need. Furthermore, in making administrative adaptations of the poverty line, program administrators may desire to raise income eligibility criteria above the poverty line in some places and lower the criteria below the poverty line in other places, in order to accommodate variations in local labor markets, local prices, the extent of poverty, or other conditions. Simple scalings of the 1974 poverty cutoffs for a nonfarm male-headed family of four with two children are as follows:

75% of Current Measure	Current Measure	125% of Current Measure	150% of Current Measure	200% of Current Measure
$3,750	$5,000	$6,250	$7,500	$10,000

The second group consists of three progressive simplifications of the current poverty measure. These were studied because it has been argued that the various adjustments for residence and family composition are not accurate or necessary. Also, most administrative uses of the poverty measure as an eligibility criterion do not incorporate all of the refinements in the current poverty matrix. For example, the income eligibility guidelines of the Community Services Administration are based on family size and farm-nonfarm residence, but not on sex of head or number of children under 18. Other administrative guidelines include distinctions only for family size. For this analysis, first the farm-nonfarm differential was eliminated by using the nonfarm thresholds of the current poverty matrix. Next, the distinction based on sex of the head was eliminated by using the nonfarm male-headed family thresholds. Finally, the distinctions for the number of related children under 18 were eliminated by using weighted average thresholds for each family size category. Simplified poverty cutoffs in 1974 are shown below. For nonfarm and male-headed family cutoffs, see Table 1.

Family-Size and Type	1974 Weighted Average Poverty Cutoffs
1 Person	$2,610
Under 65	2,658
Over 65	2,387
2 Persons	3,220
Head under 65	3,329
Head over 65	2,984
3 Persons	3,957
4 Persons	5,040
5 Persons	5,957
6 Persons	6,706
7 or more Persons	8,278

The third group consists of two single-dollar poverty thresholds, which are invariant with respect to family size. The first, the low threshold, was $3,200 for all families; that amount was chosen because it yielded a poverty count equal to the number of poor persons derived by the current measure in 1969 from the 1970 Census of Population. The high threshold is the average weighted threshold for a nonfarm family of four in the current poverty matrix, equal to $5,038 in 1974.

Such measures serve as a point of reference to illustrate the effect of variations for family size on the composition of the poor. Single-dollar cutoffs are sometimes used for analytical purposes or as administrative criteria for distributing Federal funds. The Comprehensive Employment and Training Act, for example, distributes manpower revenue-sharing funds to local governments in part (by a weighting factor of 12.5 percent) based on the number of families in each unit of a government's jurisdiction with an income less than a fixed amount; and a $2,000 threshold was used for distributing Title I funds under the Elementary and Secondary Education Act until 1974. Although in this analysis the high threshold (like the current measure) was varied over time by the annual rise in the Consumer Price Index, the low threshold was held constant at $3,200 over the eight-year period of analysis, 1967-1974. Thus, the low threshold also illustrates the effect of a poverty measure which is not annually updated. Single-dollar cutoffs in 1974 are presented below.

Low Cutoff	High Cutoff
$3,200	$5,038

The fourth group consists of three different relative measures of poverty. Each measure is based on 50 percent of some median income. Fifty is an arbitrary percentage which was selected because it is frequently used in discussions of relative poverty measures. The interest in these measures is primarily in their behavior over time and their relationship to the more conventional measure(s) updated by the Consumer Price Index.

The first relative measure examined was a double threshold distinguishing between families and unrelated individuals: for families, the poverty threshold was set at 50 percent of median family income ($6,418 in 1974, or 50 percent of $12,836); for unrelated individuals, the threshold was set at 50 percent of the median income for unrelated individuals ($2,220 in 1974, or 50 percent of $4,439). This large difference in the thresholds for these two groups of people reflects the fact that unrelated individuals as a group receive much lower incomes than families.

The remaining two relative measures considered use 50 percent of a base median income and adjust it for family size by using the equivalence scales implicit in the current poverty measure. (These equivalence scales are described in Chapter IV and are illustrated in Table 11.) In one case, the base median income is that for all families ($12,836 in 1974); in the other, the median income is that for a nonfarm family of four with a male head and two children ($14,004 in 1974). In both cases, 50 percent of the base median income was assumed to represent the poverty threshold for the typical family of four just described, and the equivalence scale was used to calculate the comparable cutoffs for the 123 other family sizes and types. Income eligibility criteria based on median income have been included in recently enacted legislations, such as Title II of the Housing and Community Development Act of 1974 and Title XX of the Social Security Act. Those definitions, however, use local median incomes rather than the national median. Title XX requires the median income for each state to be used in establishing its income eligibility standard, and the housing Act uses median income for a metropolitan area in establishing the income eligibility level for the area. National median incomes in 1974 were as follows:

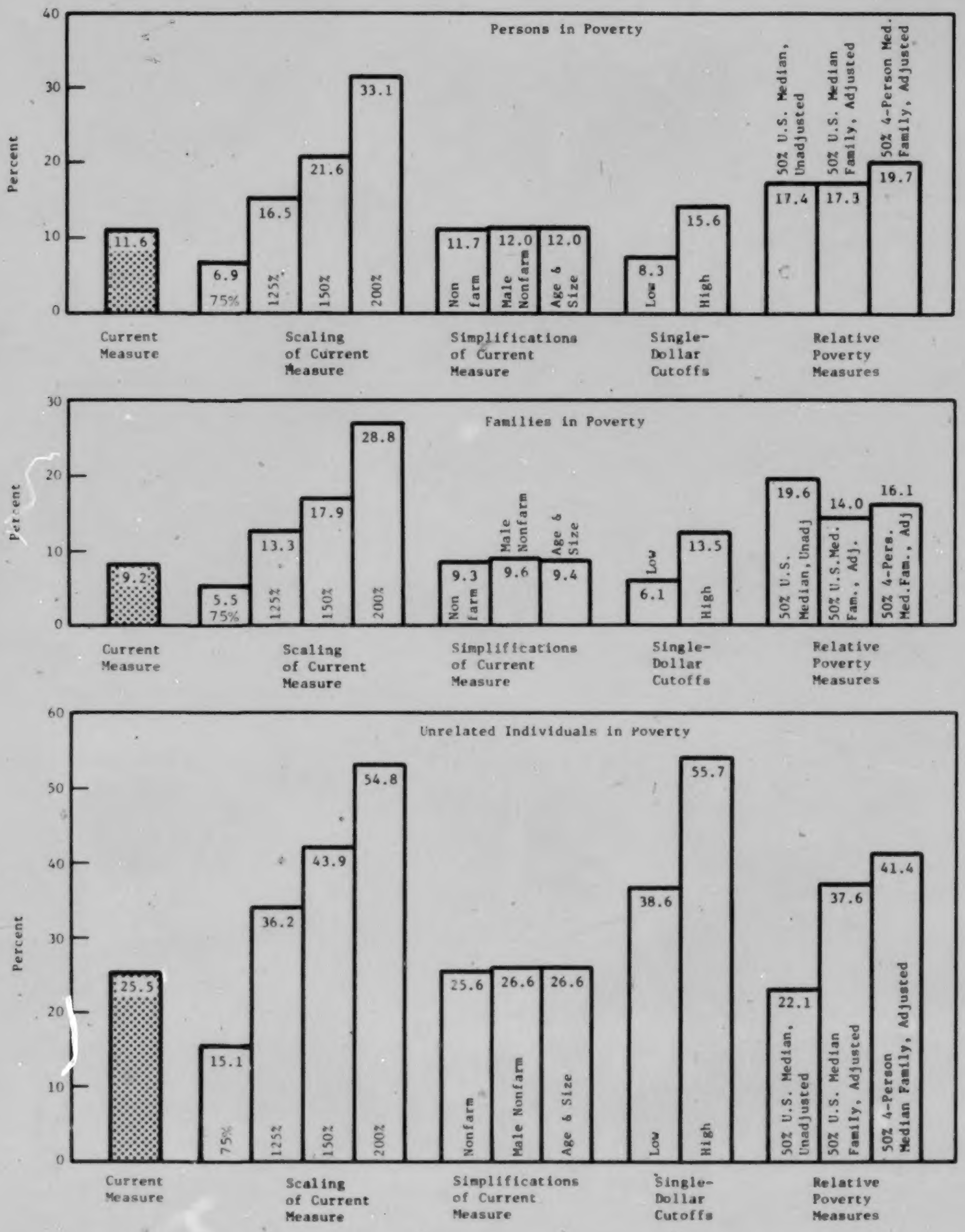
All families	$12,836
Male-headed Nonfarm families of four With two children	$14,004
Unrelated individuals	$ 4,439

The effect of the alternative measures on the size of the poverty population in 1974, based on the March 1975 Current Population Survey, is described in the next section.

The Number of Poor, 1974

Figure 3 illustrates the effect of the 13 definitions of poverty on the size of the poverty population. Portrayed as the first bar on these graphs, the current poverty measure provides the basis of comparison for the other measures.

Successively scaling the current poverty thresholds by 75 percent, 125 percent, 150 percent, and 200 percent has the largest impact on the number of poor persons and poor families, and the poverty population is largest for 200 percent of the current measure. A pattern of increase is observed with the upward shifts: for every 5 percent increase in the current cutoffs, approximately two million persons are added to the poverty population, and the percent of the population counted as poor increases one percentage point. This pattern was also observed for the downward shift to 75 percent of the current measure. As shown in Table 17, the number of poor persons rises from 14.5 million with 75 percent of the current measure, or 6.9 percent of the population to 69.4 million, or 3[illegible]1 percent of the population with 200 percent of the current measure. The comparable poverty rates for families are slightly lower, 5.5 percent and 28.8 percent.



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 3. Poverty Rates for Persons, Families, and Unrelated Individuals Under Alternative Poverty Measures, 1974

Table 17. Comparison of Poverty Population Under Selected Alternative Definitions of Poverty, 1974

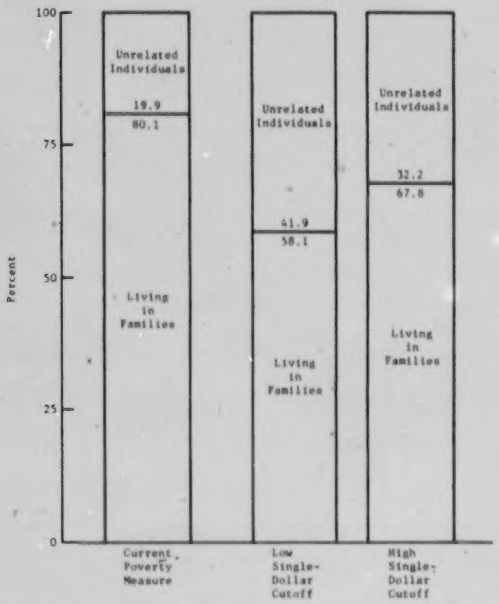
Alternative Definition	Dollar Level of Threshold[a]	Persons Classified as Poor	
		Number (millions)	Percent of Total Population
Current measure	$ 5,038	24.3	11.6%
75% of current measure	3,779	14.5	6.9
125% of current measure	6,298	34.6	16.5
150% of current measure	7,557	45.2	21.6
200% of current measure	10,076	69.4	33.1

SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

[a] Weighted average threshold for a nonfarm family of four.

Compared to the current measure, the progressive simplifications of the current measure have little impact on the size of the poverty population. Eliminating the farm-nonfarm differential raises the poverty rate slightly to 11.7 percent, as 70,000 farm families and 19,000 unrelated individuals living on farms (a total of 274,000 persons) are added to the poverty population. An additional 612,000 persons are counted as poor when the higher thresholds for male-headed families are substituted for the thresholds assigned to female-headed families in the Orshansky matrix, raising the poverty rate to 12.0 percent. In the final simplification, the variations based on number of related children under 18 were omitted. The number of poor unrelated individuals is therefore unaffected. The number of poor persons and the number of poor families decreases slightly, and the poverty rates are virtually the same, 12.0 percent and 9.4 percent, as in the previous simplification. Additional analysis of the effect of progressive simplifications of the cutoffs is found in Technical Paper XI, which deals with updating and revising the current poverty measure on the basis of current food plans and consumption patterns.

The poverty count resulting from the low single-dollar threshold ($3,200) is 17.4 million persons, considerably lower than the population defined by the current measure -- 24.3 million in 1974 -- and the lowest of any of the alternatives, with the exception of 75 percent of the current measure. However, the impact on families differs greatly from the impact on unrelated individuals. Far more unrelated individuals are poor under this definition, and far fewer families. With the high single-dollar poverty threshold ($5,038), a much larger number of persons are included in the poverty population, 32.7 million. Compared to the current poverty measure, this difference is due entirely to the family size equivalences, as many more small families (two and three persons) and unrelated individuals are counted as poor with the high single-dollar cutoff. This poverty measure produces the largest number of poor unrelated individuals, about 10.5 million. Although the number of both poor families and poor unrelated individuals increases, this poverty population is comprised of a smaller proportion of persons living in families than the current poverty population, as shown in Figure 4.



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 4. Distribution of Poor Persons by Living Arrangements, Current Poverty Measure and Single-Dollar Poverty Cutoffs, 1974

The three relative poverty measures based on 50 percent of median income all produce higher poverty counts than the current measure. Although two measures -- 50 percent of median income unadjusted for family size except by families and unrelated individuals, and 50 percent of median family income adjusted by the equivalence scale implicit in the current poverty matrix -- produce almost identical counts of poor persons (about 36 million), the former poverty population has more families and fewer unrelated individuals than the latter. Reflecting the very low median income of unrelated individuals and the resulting lower cutoff in the first instance, $2,220 compared to $3,192, fewer unrelated individuals are counted as poor when 50 percent of their own median income is used. On the other hand, the adjusted 50 percent of median family income loses more two-person and three-person families than it gains five-or-more-person families, compared to the unadjusted 50 percent median income measure, so that the number of poor families falls. This comparison provides another illustration of the effect of equivalence scales on poverty counts. Finally, using 50 percent of the median income of the base case family (nonfarm, two-child family of four with a male head) adjusted for family size produces a poverty population almost as large as that with 150 percent of the current poverty measure, 41.2 million. The reason is that the cutoff for the base case family is very similar for each measure, $7,002 compared to $7,500; consequently, the full poverty matrixes are very similar.

In summary, the largest impact on the size of the poverty population results from large increments in the level of the current thresholds. Of all the alternatives considered, the poverty population is largest when 200 percent of the current poverty measure is used, but even 150 percent of the current measure yields a higher absolute poverty count than the other measures. Because of their small family size and generally low income, unrelated individuals are an exception; the high single-dollar threshold generates the largest number of poor unrelated individuals. Using 75 percent of the current measure produces the smallest poverty population for both persons in families and unrelated individuals.

Characteristics of the Poor, 1974

An important consideration in analyzing the alternative definitions of poverty is the composition of differing poverty populations. Knowing precisely who is counted as poor is as important as knowing the number of poor. This section explores the impact of the various poverty definitions on the characteristics of the poor in 1974. As general background to this discussion, a brief description of the current poverty population is provided.

Under the current poverty measure, the poverty population has a greater proportion of the elderly, female-headed families, blacks, the poorly educated, and unrelated individuals (especially elderly unrelated individuals) than the general population. For example, 46 percent of poor families are headed by a female, and children in female-headed families are about 6 times as likely to be poor as children in male-headed families (52 percent vs. 9 percent). Blacks are more than 3 times as likely as whites to be poor; blacks comprise almost one-third of the poor population, compared to only 11 percent of the total population. About 16 percent of the elderly are poor, compared to a poverty rate of 12 percent for the general population, and the elderly constitute 14 percent of the poverty population. Only one-third of poor persons over 14 years have a high-school diploma. Although about two-thirds of poor families receive some earnings, employment tends to be unstable; only 19 percent of poor family heads have full-time, year-round employment. Table 18 summarizes some of these characteristics.

Table 18. Selected Characteristics of the Poverty Population Under the Current Definition, 1974

Characteristic	Percent of Poverty Population	Percent of Total Population
Persons		
Black	30.8%	11.4%
Elderly	13.6	10.1
Living in female-headed family	35.3	11.1
Families		
Female-headed	46.0	13.0
Received earnings	62.1	88.9
Head worked full-time, year-round	19.2	61.4

SOURCE: Special tabulations from the March 1975 Current Population Survey.

The summary discussion in this section is intended to highlight the major impacts of the alternative definitions on the composition of the poor. Several specific characteristics were selected for this illustration: female-headed families, the elderly, blacks, and the working poor. Separate consideration has also been given to school-age children because of the focus of this study on Title I of the Elementary and Secondary Education Act. The poverty rates and the composition of the poor by a more complete set of characteristics are provided in Tables 19 and 20.

To simplify the following descriptions, several generalizations can be made about the observed trends in the alternative poverty populations. Those definitions which most alter the size of the poverty population also have the greatest effect on the characteristics of the poor. As the current poverty measure is successively scaled by 75 percent, 125 percent, 150 percent, and 200 percent, the poverty rate for each subgroup increases but at a different rate. The composition of the ever larger poverty population approaches that of the total population. Progressive simplifications of the current measure, on the other hand, have negligible impact on the composition of the poor, as is evident in each of the accompanying figures, and for the most part will be ignored in this analysis. The single-dollar thresholds, which are invariant with respect to family size, change the composition of the poor to a large extent because of their differential screening of large and small families.

Table 19. Poverty Rates by Selected Characteristics for Alternative Poverty Definitions, 1974

Characteristics	Universe (in thousands)	Current Measure	Scaling of Current Measure				Simplifications of Current Measure			Single-Dollar Cutoffs		Relative Measures		
			75%	125%	150%	200%	Nonfarm	Male Nonfarm	Age & Size	Low	High	50% U.S. Median, Unadj.	50% U.S. Median Family, Adj.	50% 4-Person Median Family, Adj.
Persons														
Total	209,343	11.6%	6.9%	16.5%	21.6%	33.1%	11.7%	12.0%	12.0%	8.3%	15.6%	17.4%	17.3%	19.7%
Living arrangements:														
In families	190,471	10.2	6.1	14.6	19.4	31.0	10.3	10.6	10.5	5.3	11.6	16.9	15.3	17.5
Male headed	167,227	6.5	3.6	10.2	14.7	26.4	6.7	6.7	6.8	3.2	7.9	12.3	10.8	12.9
Female headed ..	23,245	36.8	24.2	46.0	53.1	64.3	36.9	38.7	37.6	20.4	38.6	49.8	47.0	50.9
Unrelated individuals	18,872	25.5	15.1	36.2	43.9	54.8	25.6	26.6	26.6	38.6	55.7	22.1	37.6	41.4
Race:														
White	182,355	8.9	5.2	13.2	17.9	29.2	9.1	9.3	9.3	7.0	13.5	14.7	13.8	16.1
Black	23,704	31.5	20.1	41.5	49.2	62.4	31.6	32.5	32.2	18.0	31.7	37.7	42.9	46.5
Other	3,284	15.1	9.5	21.7	26.0	38.8	15.0	15.8	15.7	9.3	17.8	21.0	22.1	23.9
Age:														
Under 5 years	16,002	16.7	10.9	22.8	29.3	44.1	16.8	17.1	17.1	8.3	15.8	21.7	23.7	26.8
5-17 years	49,800	15.1	9.2	20.4	25.9	39.1	15.3	15.7	15.6	5.9	11.9	16.7	21.2	23.8
18-64 years[a]	122,414	8.8	5.5	12.5	16.5	26.3	8.9	9.2	9.1	6.6	12.5	13.9	13.1	15.0
65 years & over ..	21,127	15.7	6.7	25.9	35.1	50.3	15.9	[illegible]	16.0	23.8	42.4	36.3	27.3	31.8
Families														
Total	55,712	9.2	5.5	13.3	17.9	28.8	9.3	9.6	9.4	6.1	13.5	19.6	14.0	16.1
Sex of head:														
Male	48,470	5.7	3.1	9.2	13.4	24.2	5.8	5.8	5.9	3.8	9.6	15.0	9.8	11.7
Female	7,242	32.5	21.2	40.8	47.6	59.5	32.5	34.5	33.1	21.6	39.4	50.3	41.8	45.4
Presence of children:														
None	24,381	5.1	2.5	8.7	12.7	22.1	5.2	5.3	5.3	5.5	14.7	22.3	9.2	11.1
One or more	31,331	12.4	7.8	16.9	21.9	34.0	12.5	12.9	12.6	6.6	12.6	17.4	17.7	20.0
Employment status of head:														
Employed	40,419	5.1	3.0	7.8	11.1	20.4	5.2	5.4	5.3	2.9	6.6	10.4	8.3	9.8
Unemployed	2,797	16.1	10.9	22.8	29.2	43.0	16.1	16.4	16.4	9.6	18.4	27.1	23.8	26.9
Not in civilian labor force	12,497	20.9	12.3	29.1	37.1	52.7	21.0	21.6	21.3	15.6	34.7	47.4	30.0	34.0
Source of income:[b]														
Earnings	49,529	6.4	3.8	9.8	13.7	23.8	6.5	6.7	6.7	3.7	8.5	13.4	10.3	12.2
Social Security ..	12,162	10.0	4.5	16.9	24.3	39.9	10.2	10.4	10.4	8.5	24.5	36.3	17.7	21.4
Public assistance.	4,359	46.9	27.4	59.4	68.3	79.8	47.0	48.6	47.7	28.0	53.9	66.1	60.7	65.3
Unrelated Individuals														
Total	18,872	25.5	15.1	36.2	43.9	54.8	25.6	26.6	26.6	38.6	55.7	22.1	37.6	41.4
Sex:														
Male	7,890	20.4	13.2	28.0	34.0	44.5	20.5	20.5	20.4	28.1	43.6	17.3	29.0	32.0
Female	10,981	29.3	16.4	42.1	51.0	62.1	29.3	31.0	31.0	46.2	64.3	25.6	43.9	48.2
Employment status:														
Employed	9,660	13.2	9.0	18.7	23.3	33.6	13.3	14.1	14.0	19.1	34.1	11.4	19.4	21.6
Unemployed	930	32.4	23.7	40.2	45.3	59.4	32.4	34.0	34.0	40.0	58.9	28.8	41.3	43.4
Not in civilian labor force	8,282	39.2	21.1	56.2	67.7	79.0	39.3	40.5	40.4	61.2	80.4	33.9	58.5	64.2
Source of income:[b]														
Earnings	11,609	14.6	9.2	20.9	26.0	37.1	14.7	15.6	15.6	21.4	37.6	12.2	21.7	24.2
Social Security ..	6,982	30.7	11.9	49.6	62.8	75.7	30.9	32.0	31.9	56.0	77.9	25.6	52.3	58.9
Public assistance.	1,656	62.7	30.6	79.8	90.8	96.1	62.8	64.9	64.9	84.2	95.9	56.0	81.7	87.0

SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

[a] Includes a small number of heads, wives, and unrelated individuals 14-17 years of age.

[b] A family or unrelated individual may have more than one source of income. Consequently, the totals for these categories exceed the numbers of families and unrelated individuals.

Table 20. Distribution of the Poverty Population by Selected Characteristics for Alternative Poverty Definitions, 1974

Characteristics	Total Population	Current Measure	Scaling of Current Measure				Simplifications of Current Measure			Single Dollar Cutoffs		Relative Measures		
			75%	125%	150%	200%	Nonfarm	Male Nonfarm	Age and Size	Low	High	50% U.S. Median, Unadj.	50% U.S. Median Family, Adj.	50% 4-Person Median Family, Adj.
Persons														
Number (in thousands)	209,343	24,260	14,538	34,615	45,211	69,389	24,534	25,146	25,060	17,392	32,653	36,400	36,148	41,167
Living arrangements:														
In families	91.0%	80.1%	80.5%	80.3%	81.7%	85.1%	80.3%	80.0%	80.0%	58.1%	67.8%	88.5%	80.4%	81.0%
Male headed	79.9	44.8	41.7	49.4	54.4	63.6	45.4	44.3	45.1	30.9	40.3	56.7	50.1	52.3
Female headed	11.1	35.3	38.8	30.9	27.3	21.5	34.9	35.8	34.9	27.2	27.5	31.8	30.2	28.8
Unrelated individuals	9.0	19.9	19.5	19.7	18.3	14.9	19.7	20.0	20.0	41.9	32.2	11.5	19.6	19.0
Race:														
White	87.1	67.2	65.1	69.5	72.3	76.9	67.5	67.3	67.5	73.7	75.2	73.6	69.9	71.3
Black	11.3	30.7	32.7	28.4	25.8	21.3	30.5	30.6	30.5	24.6	23.0	24.6	28.1	26.8
Other	1.6	2.0	2.1	2.1	1.9	1.8	2.0	2.1	2.1	1.8	1.8	1.9	2.0	1.9
Age:														
Under 5 years	7.6	11.0	12.0	10.5	10.4	10.2	11.0	10.9	10.9	7.6	7.8	9.5	10.5	10.4
5-17 years	23.8	31.0	31.7	29.3	28.5	28.0	31.0	31.0	31.0	16.8	18.1	22.8	29.2	28.8
18-64 years [a]	58.5	44.3	46.5	44.4	44.[illegible]	46.5	44.4	44.6	44.6	46.7	46.8	46.6	44.4	44.5
65 years and over	10.1	13.6	9.8	15.8	16.4	15.3	13.7	13.5	13.5	28.9	27.4	21.1	16.0	16.3
Families														
Number (in thousands)	55,712	5,109	3,052	7,437	9.948	16,036	5,179	5,323	5,256	3,400	7,523	10,894	7,781	8,967
Sex of head:														
Male	87.0	54.0	49.8	60.3	65.4	73.2	54.6	53.1	54.3	54.0	62.1	66.6	61.1	63.3
Female	13.0	46.0	50.2	39.7	34.6	26.9	45.4	46.9	45.7	46.0	37.9	33.4	38.9	36.7
Presence of children:														
None	43.8	24.2	20.0	28.6	31.2	33.6	24.5	24.3	24.7	39.3	47.7	49.9	28.8	30.2
One or more	56.2	75.8	80.0	71.4	68.8	66.4	75.5	75.7	75.3	60.7	52.4	50.1	71.3	69.8
Employment status of head:														
Employed	72.5	40.1	39.5	42.4	45.2	51.4	40.6	40.7	40.7	34.9	35.5	38.6	43.2	44.3
Unemployed	5.0	8.8	10.0	8.6	8.2	7.5	8.7	8.6	8.7	7.9	6.8	7.0	8.6	8.4
Not in civilian labor force	22.4	51.1	50.5	50.0	46.6	41.1	50.8	50.7	50.6	57.2	57.6	54.4	48.3	47.4
Source of income:[b]														
Earnings	88.9	62.1	61.5	65.0	68.0	73.4	62.5	62.8	62.7	53.5	56.1	60.9	65.8	67.2
Social Security	21.8	23.9	17.9	27.6	29.7	30.2	24.0	23.8	24.1	30.3	39.5	40.5	27.7	29.0
Public assistance	7.8	40.0	39.2	34.8	29.9	21.9	39.5	39.8	39.5	35.9	31.2	26.4	34.0	31.8
Unrelated Individuals														
Number (in thousands)	18,872	4,820	2,841	6,832	8,284	10,333	4,839	5,026	5,018	7,290	10,506	4,178	7,100	7,813
Sex:														
Male	41.8	33.3	36.7	32.3	32.3	34.0	33.5	32.2	32.1	30.4	32.8	32.6	32.2	32.2
Female	58.2	66.6	63.3	67.7	67.6	66.0	66.5	67.8	67.9	69.6	67.2	67.4	67.8	67.7
Employment status:														
Employed	51.2	26.4	30.7	26.5	27.2	31.4	26.6	27.0	27.0	25.3	31.4	26.4	26.4	26.7
Unemployed	4.9	6.3	7.7	5.5	5.1	5.3	6.2	6.3	6.3	5.1	5.2	6.4	5.4	5.2
Not in civilian labor force	43.9	67.3	61.5	68.1	67.7	63.3	67.2	66.7	66.7	69.6	63.4	67.2	68.2	68.1
Source of income:[b]														
Earnings	61.3	35.[illegible]	37.6	35.5	36.5	41.7	35.2	36.1	36.1	34.0	41.6	33.9	35.5	36.0
Social Security	37.0	44.5	29.3	50.7	53.0	51.1	44.6	44.4	44.4	53.6	51.8	42.8	51.4	52.6
Public assistance	8.8	21.6	17.8	19.4	18.2	15.4	21.5	21.4	21.4	19.1	15.1	22.2	19.1	18.4

SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

[a] Includes a small number of heads, wives, and unrelated individuals 14-17 years of age.

[b] A family or unrelated individual may have more than one source of income. Consequently, the totals for these categories exceed the numbers of families and unrelated individuals.

In general, because the relative poverty measures adjusted for family size and composition are similar in 1974 to those resulting from an upward scaling of the current measure by 25 to 50 percent, their poverty populations are similar in size and composition.

Persons in Female-Headed Families

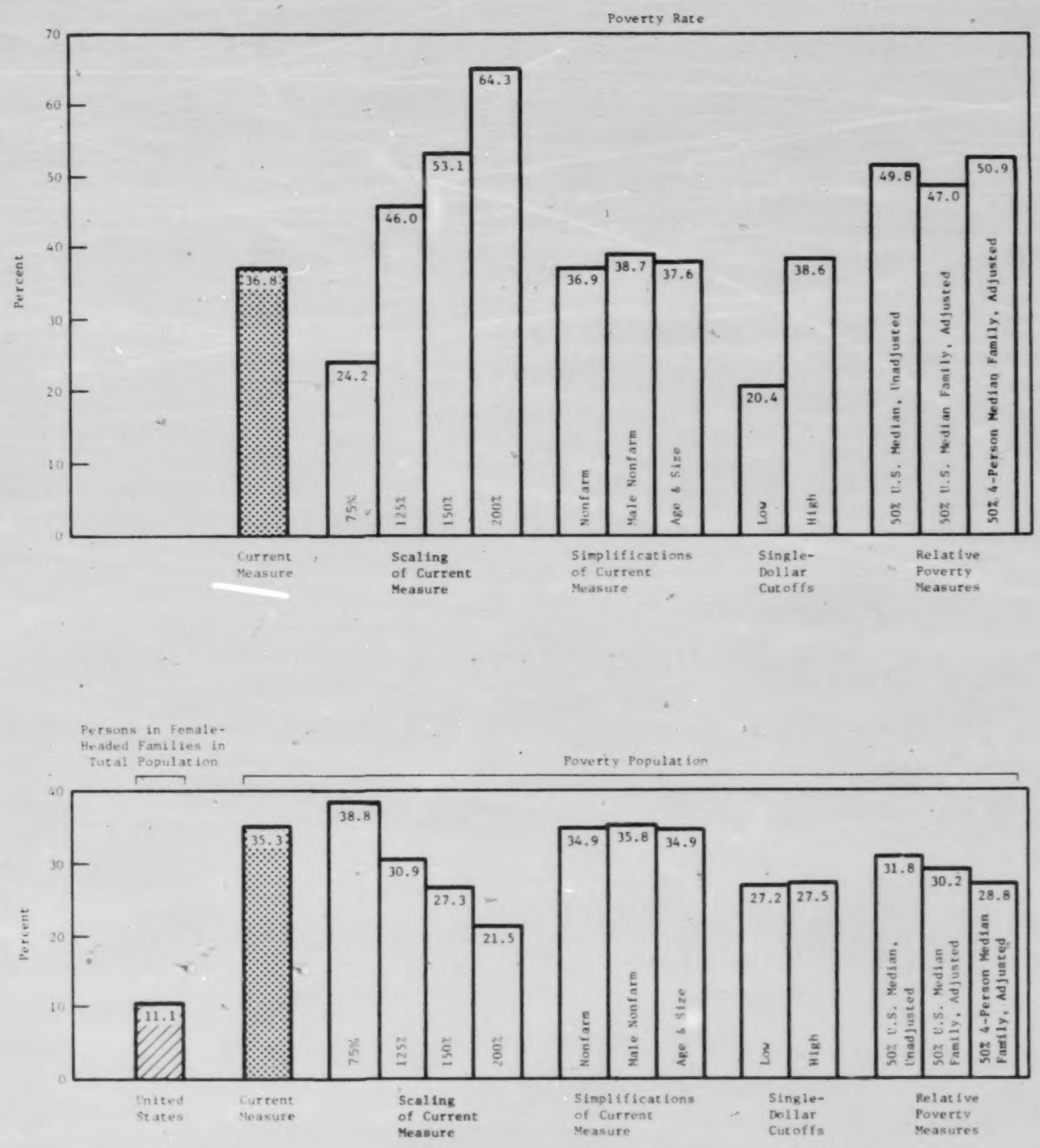
As shown in Figure 5, the poverty incidence for persons in female-headed families rises from 37 percent to 64 percent as the poverty thresholds are doubled. At the same time, this group falls from 35 percent to 22 percent of all poor persons; thus, more male-headed families and family members are added as the poverty group expands. Female-headed families and family members are, however, still greatly overrepresented in the poverty population. Decreasing the poverty thresholds to 75 percent of the current measure lowers the incidence of poverty to 24 percent and raises the proportion of persons in female-headed families to 39 percent of the poor. Eliminating the male-female distinction in the current poverty measure increases the poverty rate for members of female-headed families slightly, from 37 to 39 percent. The low single-dollar threshold significantly lowers the poverty rate for this group to 20 percent, and both single-dollar thresholds decrease their share of the poor to about 27 percent. The effects of the relative poverty measures are similar to the 25 percent and 50 percent increases in the current poverty measure, reducing persons in female-headed families to about 30 percent of the poor.

Blacks

Figure 6 shows that the measures have an impact on blacks similar to that on persons in female-headed families. Blacks as a percentage of the poor fall from 31 percent to 21 percent as the current poverty thresholds are raised by 100 percent; black poverty incidence almost doubles, rising from 32 percent to 62 percent.

School-Age Children

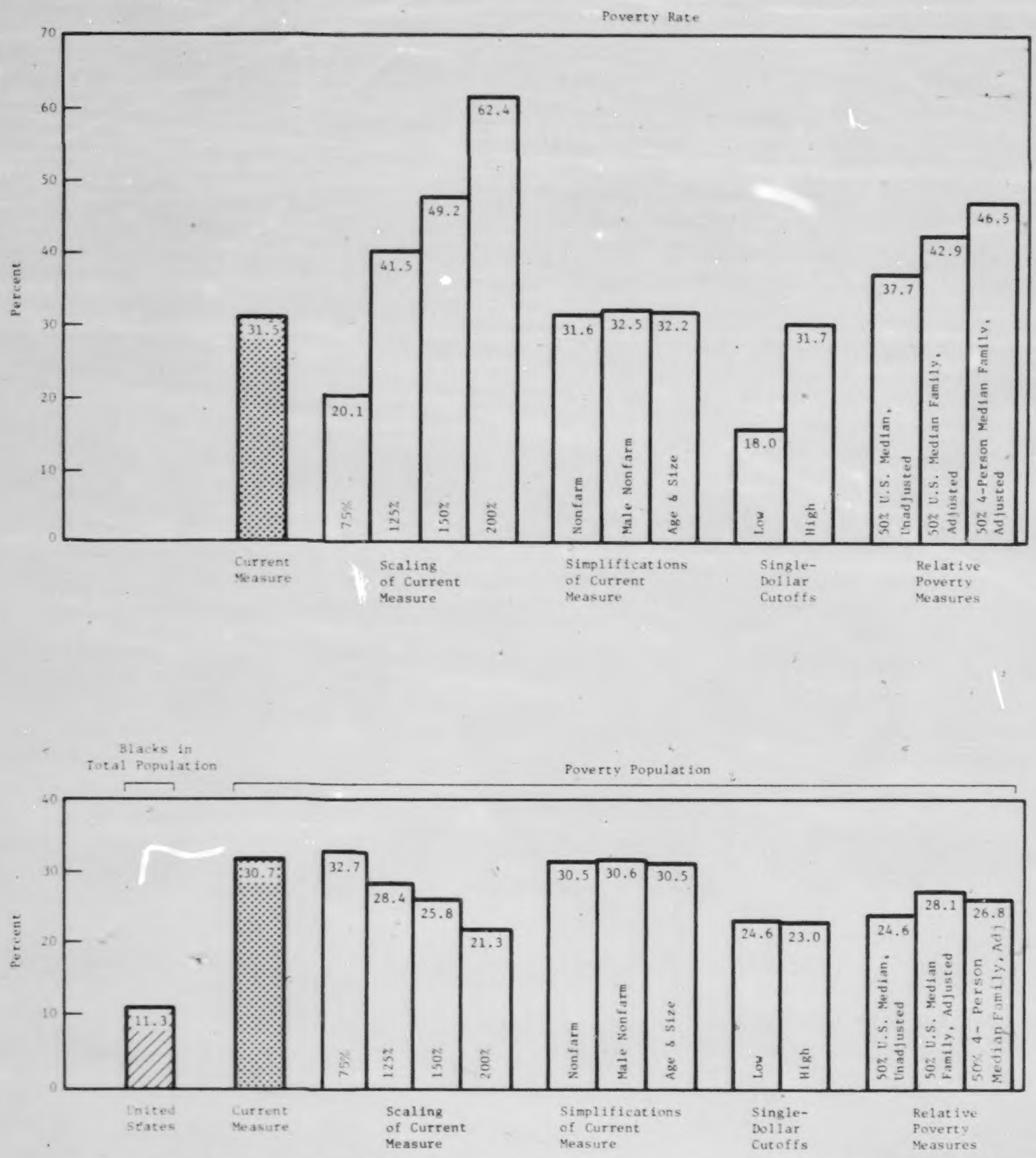
The poverty rates for children aged 5 to 17 years under the alternative poverty definitions, and their representation in the poverty population, are displayed in Figure 7. Although the poverty rates follow a pattern similar to those for blacks and persons in female-headed families, they are at a much lower level, reaching 39 percent at 200 percent of the current measure. School-age children are not as overrepresented in the poverty population as the other subgroups. Under the current definition they comprise 31 percent of the poverty population, compared with 24 percent of the general population. Only the three size-invariant poverty thresholds -- $3,200, $5,038 and 50 percent of unadjusted median family income -- significantly affect their representation among the poor. Because these three measures reduce the number of large families relative to unrelated individuals, poor school-age children drop to as low



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 5. Persons in Female-Headed Families:

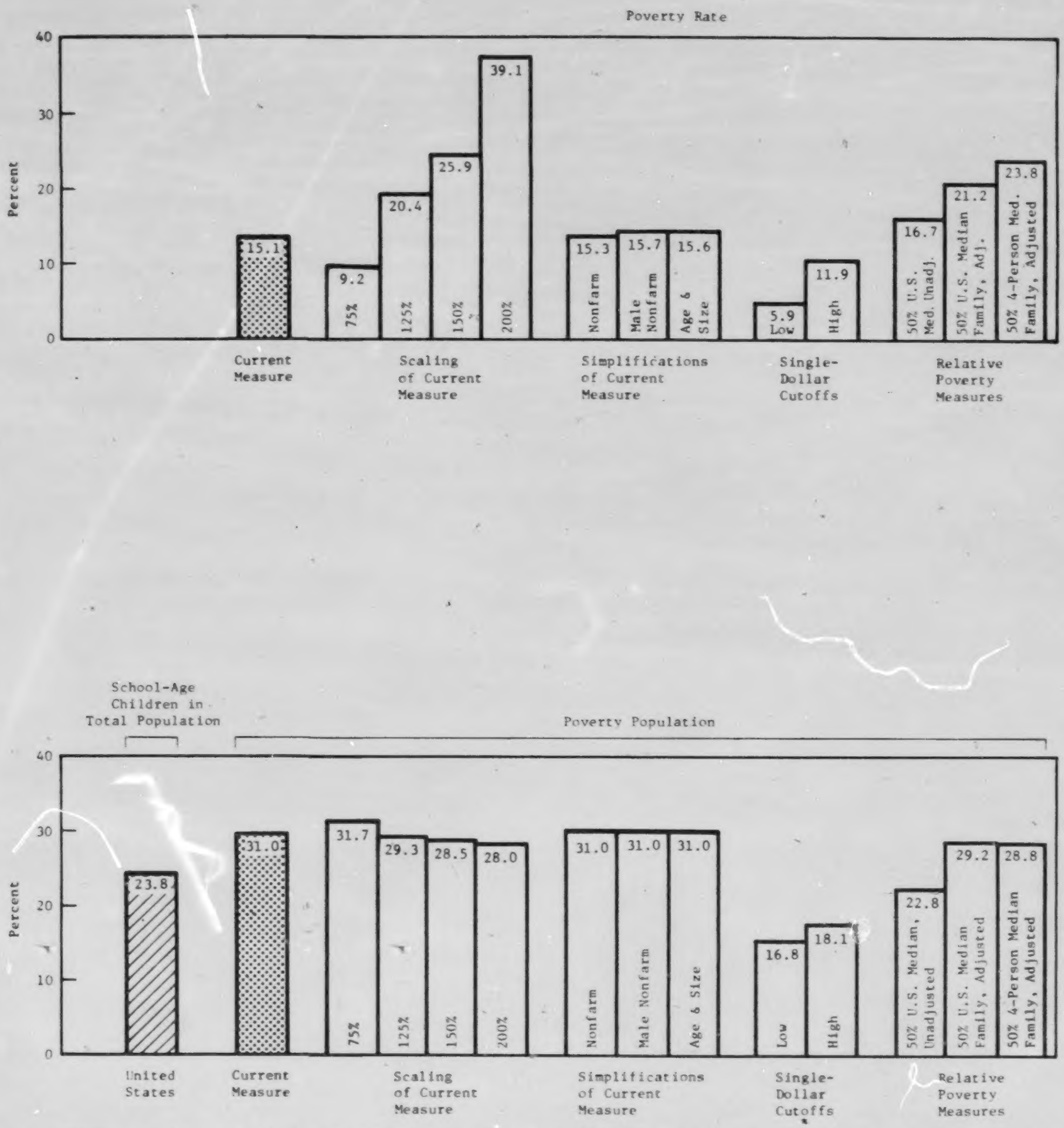
Poverty Rates and Percent of the Poverty Population
Under Alternative Poverty Definitions, 1974



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 6. Black Persons:

Poverty Rates and Percent of the Poverty Population
Under Alternative Poverty Definitions, 1974



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 7. School-Age Children:

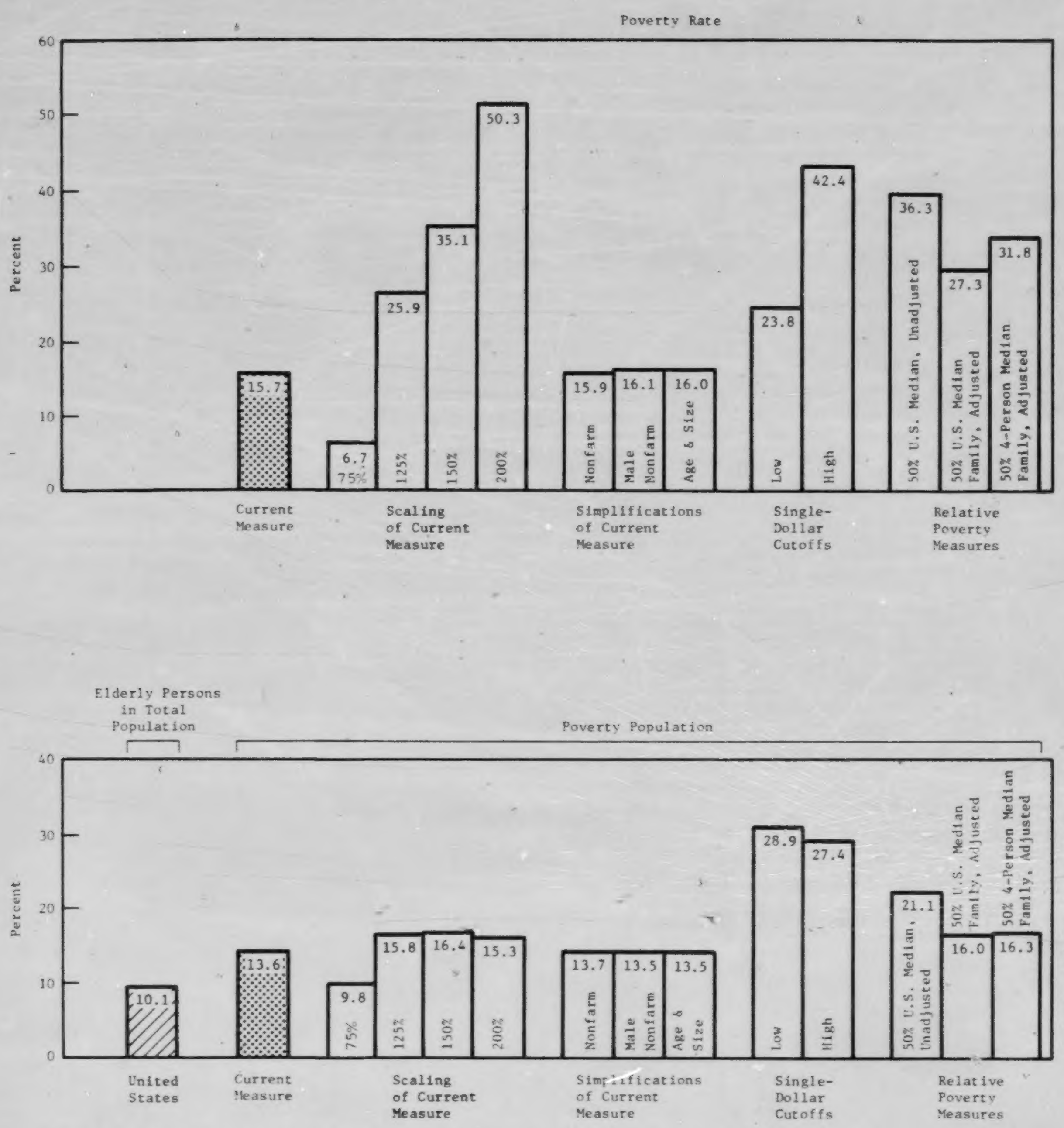
Poverty Rates and Percent of the Poverty Population Under Alternative Poverty Definitions, 1974 as 17 percent of poor persons. For all other measures, they remain at 28 to 32 percent of the poor.

Elderly

Figure 8 exhibits several slightly different patterns for the elderly (persons aged 65 or more) with respect to the alternative poverty definitions. Their poverty rates increase as the current poverty measure is successively raised, but at a faster rate, from 16 percent to 50 percent. Consequently, the elderly comprise a slightly higher percentage of the poverty population at 125 percent and 150 percent of the current measure, 16 percent compared to 14 percent, and decline only slightly to 15 percent at 200 percent of the current measure. These small differences are not statistically significant. As the poverty thresholds are raised, many elderly whose Social Security and pension income is only marginally higher than the current thresholds are "recaptured" as poor. When the poverty threshold is lowered to 75 percent of the current measure, the poverty rate for the elderly declines to 7 percent and their share of the poverty population is reduced to 10 percent. As with school-age children, the three invariant poverty thresholds significantly affect the representation of the elderly in the poverty population. This effect is in the opposite direction of that on the children, however, because of the elderly's preponderance in small one-person or two-person families. The elderly rise to 29 percent of the poverty population for the low single-dollar threshold ($3,200), and are only a slightly lower proportion for the high single-dollar threshold (27 percent). For the unadjusted relative poverty measure, 50 percent of median income for families or unrelated individuals, the elderly constitute about one-fifth of the poor, compared to only 10 percent of the total population. Closely related to this is the effect of the alternative poverty definitions on families and unrelated individuals receiving Social Security. A very similar pattern is evident in Figure 9, although the impact of the single-dollar thresholds is not as pronounced as for the elderly.

Families with Earnings

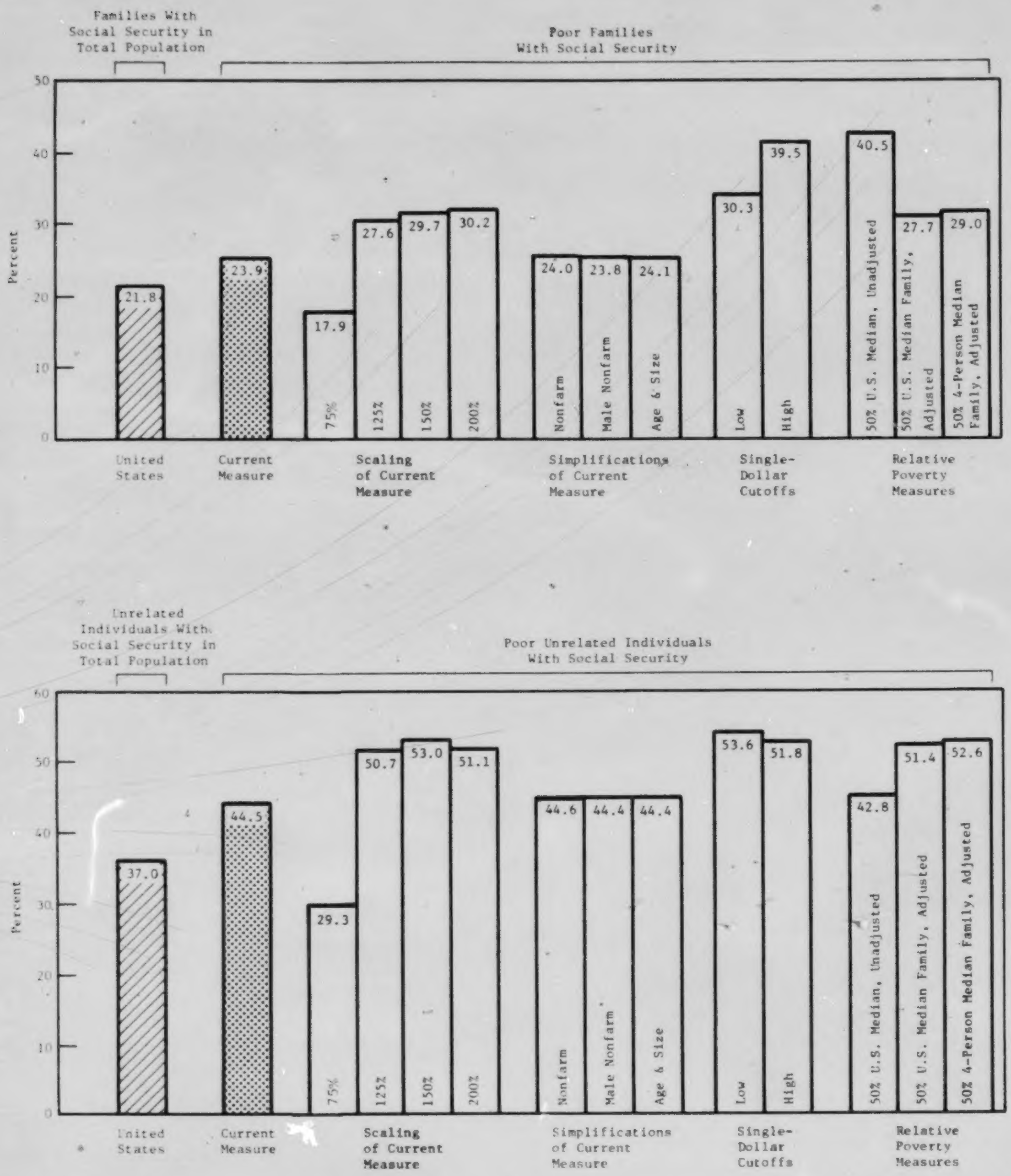
As noted earlier, about two-thirds of all families who are poor under the current measure receive some earnings. This proportion increases to almost three-quarters when these cutoffs are raised by 100 percent, but it is still considerably lower than the percentage of all families in the general population with earnings, which is about 90 percent. The proportion of poor families with earnings is lowest using the single-dollar thresholds, which are invariant with respect to family size. The work patterns of the poor tend to be unstable, and only 19 percent of poor family heads under the current definition worked full-time, year-round, in 1974, compared to 61 percent of all family heads. Raising the poverty cutoffs captures more and more working poor. They represent 22 percent of all poor families at 125 percent of the current measure, 25 percent at 150 percent, and they rise to 34 percent of poor families at poverty cutoffs equal to 200 percent of the current measure. These results are illustrated in Figure 10.



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 8. Elderly Persons:

Poverty Rates and Percent of the Poverty Population Under Alternative Poverty Definitions, 1974



SOURCE: Special tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 9. Percent of Poor Families and Poor Unrelated Individuals Receiving Social Security Under Alternative Poverty Definitions, 1974

Summary of Poverty Counts and Characteristics

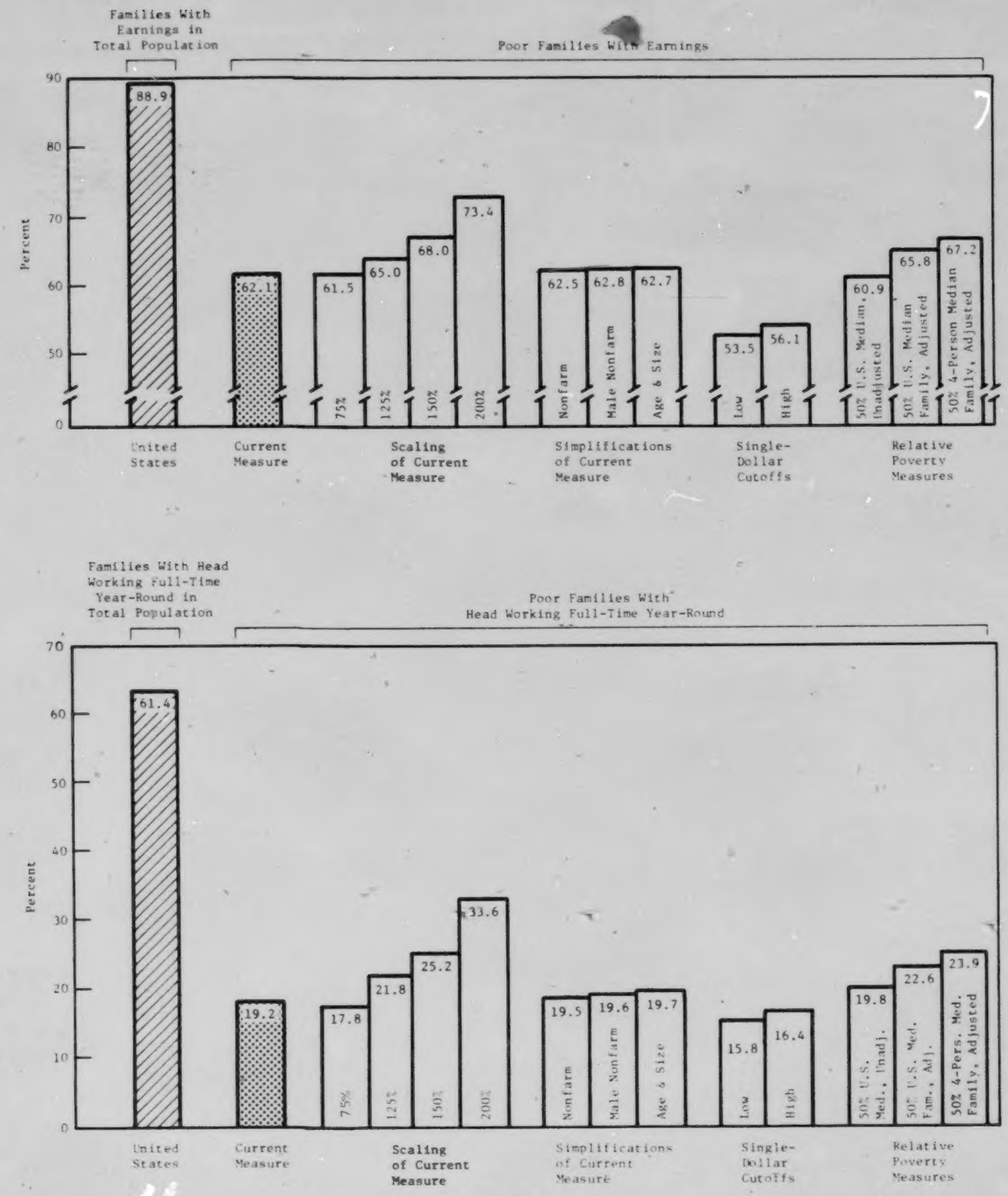
The effect of the alternative poverty definitions on the number and characteristics of those who would be counted as poor is substantial in some cases. The composition of the poor varies the most with two basic changes in the poverty definition: first, large increments in the level of the thresholds, and second, elimination of the variations by family size. The large increases in the poverty population resulting from successively raising the current poverty thresholds by 25 percent, 50 percent, and 100 percent are accompanied by a shift in the composition of the poverty population to resemble more closely the overall population. Even at 200 percent of the current poverty measure, however, the poverty population is still disproportionately comprised of blacks, female-headed families, and the elderly. The invariant poverty thresholds, on the other hand, produce a poverty population with proportionately fewer families (especially large families), more unrelated individuals, fewer female-headed, and more elderly.

The simplifications of the current poverty measure, by eliminating distinctions for sex of head, farm residence, and presence of children, have a negligible effect on both the size and composition of the poverty population.

Differences Over Time

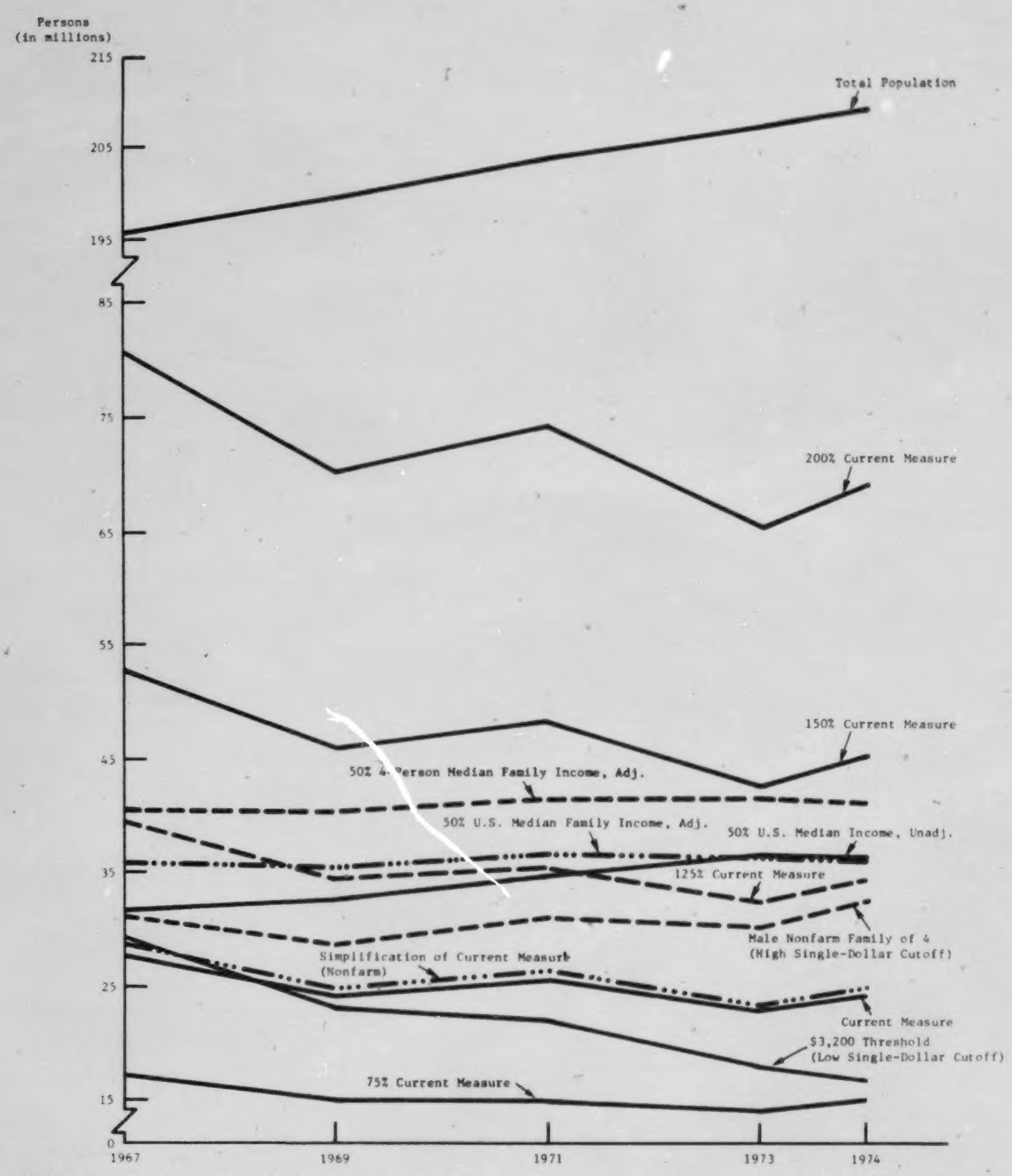
Poverty definitions differ in the manner in which they are updated over time. All measures based on the current definition are updated each year by the annual percentage increase in the Consumer Price Index. The relative measures, based on median income, are updated each year as income levels change. Only one of the poverty measures analyzed, the $3,200 single-dollar threshold, was invariant over time. This section considers changes in the effect of the different poverty measures over time, with a view to determining the stability of the patterns observed in the 1974 data. Attention is focused particularly on the behavior of the poverty populations for the time-invariant and the relative measures of poverty.

Figure 11 illustrates how the size of the poverty population under each measure has varied over the period 1967 to 1974, based on special tabulations from the March Current Population Surveys for 1968, 1970, 1972, 1974, and 1975. Between 1967 and 1974, the total population increased by almost 15 million persons, and the poverty population under the current definition dropped from almost 28 million to 24 million. The descent was not smooth, however, with slight increases occurring between 1969 and 1971 and between 1973 and 1974; these increases coincided with rises in the national unemployment rate, from 3.5 percent to 5.9 percent and from 4.9 percent to 5.6 percent, respectively. It should be remembered, however, that for small areas there is little relationship between unemployment and poverty (See Chapter III for a more detailed discussion of unemployment data.) This same trend was reflected in the three progressive simplifications of the current measure (note that it is impossible to



SOURCE: [illegible]ecial tabulations by the Census Bureau from the March 1975 Current Population Survey.

Figure 10. Percent of Poor Families with Earnings and Percent of Poor Families with Head Working Full-Time, Year-Round



SOURCE: Special tabulations by the Census Bureau from the March Current Population Survey for 1968, 1970, 1972, 1974, and 1975.

Figure 11. Number of Persons in Poverty
Under Alternative Poverty Definitions, for Selected Years, 1967-1974

distinguish these measures on the graph because of their close similarity), and, at successively higher positions, in the four scalings of the current measure (75 percent, 125 percent, 150 percent, and 200 percent). The poverty counts from the relative measures, based on median income, exhibited much less variation over time. For 50 percent of the median income for four-person families, adjusted, the counts were virtually invariant, and for 50 percent of median family income, adjusted, only slightly more change over time was apparent. With the unadjusted 50 percent of median income, the number of poor persons steadily increased over time. Finally, as expected, the invariant threshold of $3,200 resulted in a large and steady fall in the number of poor persons from 29 million in 1967 to 17 million in 1974. This illustrates what would happen if poverty cutoffs were not adjusted for rising prices or a rising standard of living.

The poverty rates for different subgroups of the population under the alternative poverty definitions were also examined over the same eight-year period, 1967 through 1974. There are two general differences in the trends for the subgroups compared to the overall trends for the general population discussed above. The poverty rates under the relative measures were not as stable and constant for the subgroups over the period, although the difference was not consistent among the subgroups. Both upward and downward trends were observed, in addition to greater variability in both directions from one year to the next. A second difference was that the poverty rates of the subgroups at successively higher levels of the current thresholds, especially 200 percent of the current measure, did not exactly mirror the pattern over time of the poverty rates with the current measure. Both of these differences indicate that the income distribution of subgroups of the population is not as regular and stable as the income distribution of the population as a whole. Also, they may reflect changes in the composition of the population as a whole.

The largest differences from the general pattern of alternative poverty rates over time were observed among the elderly and persons in female-headed families. For the elderly, the poverty rates under all poverty definitions displayed a strong and steady downward trend from 1967 to 1974. With the current measure, for example, the poverty rates fell from 30 percent in 1967 to 16 percent in 1974. The decline over the period was about 10 to 15 percentage points for variants of the current measure, a somewhat smaller but still a steady decline for the relative measures, and a much larger decline (about 45 percentage points) for the constant single-dollar threshold of $3,200. This improvement in the economic position of the elderly is largely a result of increases in Social Security benefits after 1970, and, to a lesser extent, larger and more widespread private pensions.

The percentage of persons in female-headed families counted as poor under the current measure declined slightly from 39 percent to 37 percent over the period. Most of this decline occurred after 1971. However, the number of female-headed families has increased with time. This subgroup is distinguished by the behavior of its poverty rates under the relative measures. The percent of persons in female-headed families classified as poor rose sharply from 1967 to 1969 under all three relative measures, and continued to rise until 1973 for the two measures based on 50 percent of median family income, adjusted and unadjusted for family size. From 1973 to 1974, the poverty rate fell under each of the relative measures. This pattern of a rising poverty rate to 1973, followed by a drop, was even more pronounced for families receiving public assistance under the relative measures.

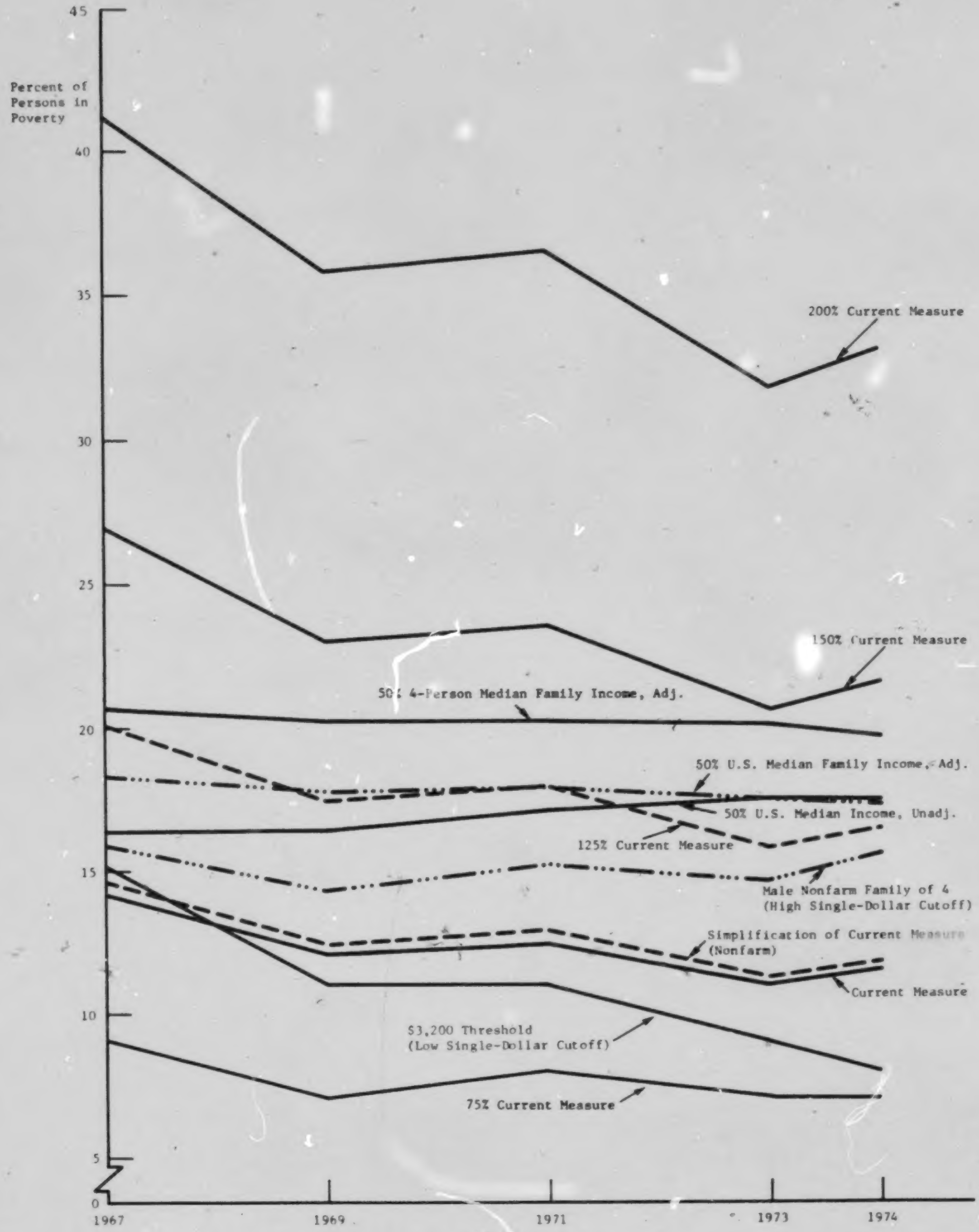
The poverty rates for other subgroups examined -- blacks, families with earnings, and school-age children -- were generally similar to the trends observed for the overall population in Figure 12. Blacks experienced a larger drop in their poverty incidence between 1967 and 1969 than did the general population, and the decline occurred under all alternative definitions.

The largest change over time in the composition of the alternative poverty populations also occurred for the elderly and persons in female-headed families. Persons in female-headed families steadily increased as a percentage of the poverty population under all alternative measures. While growing from 9 to 11 percent of the general population, this group rose from 25 percent of the poverty population under the current measure in 1967 to 35 percent in 1974. Gains of 5 to 10 percentage points were made under the alternative measures. Families receiving public assistance experienced an even larger growth over the period, from 4 percent to 8 percent of all families and from 21 percent to 40 percent of poor families under the current measure.

Elderly persons, on the other hand, were generally a declining segment of the poverty population, reflecting their overall decline in poverty incidence. The trend was not steady, and between 1967 and 1969 the elderly increased as a percentage of the poor. Under the current measure they fell from 19 percent of the poor in 1967 to 14 percent in 1974, and their representation in most alternative poverty populations dropped by 2 to 5 percentage points over the period. The only exception was 200 percent of the current poverty measure; in this case the elderly increased as a percentage of these poverty populations.

Accompanying these trends were much smaller changes in the representation of other groups in each of the alternative poverty populations. Families with earnings declined from 1967 to 1974 as a percent of poor families, largely as a result of the dramatic growth in poor families with public assistance. Blacks and school-age children, who were each about 30 percent of the poverty population under the current measure, maintained a fairly stable representation in each of the alternative poverty populations over the period.

Although some rather large changes in poverty incidence and in the composition of the poor occurred over the eight-year period, the differences between two adjacent years were not large.



SOURCE: Special tabulations by the Census Bureau from the March Current Population Survey for 1968, 1970, 1972, 1974, and 1975.

Figure 12. Percent of Persons in Poverty
Under Alternative Poverty Definitions, for Selected Years, 1967-1974

Geographic Distribution of Poverty

The preceding sections have dealt with the impact of the thirteen poverty definitions at the national level, based on tabulations from the March Current Population Surveys. Although the CPS is geographically representative, the sample size of about 47,000 households is not large enough to yield statistically reliable estimates of the number of poor at the state level; this point has been further elaborated in Chapter III. Therefore, in order to investigate the impact of the definitions on the geographic distribution of the poor, it was necessary to use the One Percent Sample of the 1970 Census of Population, which contains over 6 million households. This section discusses data for the poverty population by states in 1969.

Concern about the geographic distribution of poverty arises from the manner in which funds are distributed under Title I of the Elementary and Secondary Education Act. The formula allocates available funds according to the number of school-age children in families with incomes below the appropriate poverty cutoffs. Thus, the relevant criterion is a state's share of the pool of eligible children (i.e., of the national count of poor, school-age children). Therefore, the analysis in this section is concerned with changes in the share of the total poverty population from the share existing under the current poverty measure. The discussion is primarily at the regional level, with differences for individual states noted. For the interested reader, poverty rates for the entire population in 1969 are reported by state in Table 21 and for school-age children in Table 22. Technical Paper XVIII contains a more detailed analysis of the share at the state level.

Figure 13 illustrates the changes in the share of poverty for each region under the alternative poverty definitions. In each case, the bar on the graph represents the region's share of the poverty population under each definition relative to its share under the current definition. As an aid in comparing effects, we introduce the notion of a share ratio, defined as a region's percentage of the nation's poor population resulting from an alternative measure divided by its percentage resulting from the current definition. (Both percentages are based on the same year, 1969.) A ratio of 1.0 indicates that a region's share is unchanged by the alternative measure; a ratio smaller than 1.0 indicates a decreased share. For example, the Northeast contains 17.9 percent of the 27.4 million poor persons in the United States under the current definition in 1969; raising the current poverty thresholds by 25 percent results in a poverty population of 37.5 million persons, of which 18.4 percent reside in the Northeast. Therefore, the share ratio for the Northeast under the upward scaling of the current measure by 25 percent is 1.03 (18.4/17.9).

Several broad regional patterns emerge from Figure 13. The South's share of poor persons generally decreases, or remains unchanged, for every alternative poverty measure, with the exception of 75 percent of the

Table 21. Percent of Population in Poverty for Selected Alternative Poverty Definitions, by State, 1969

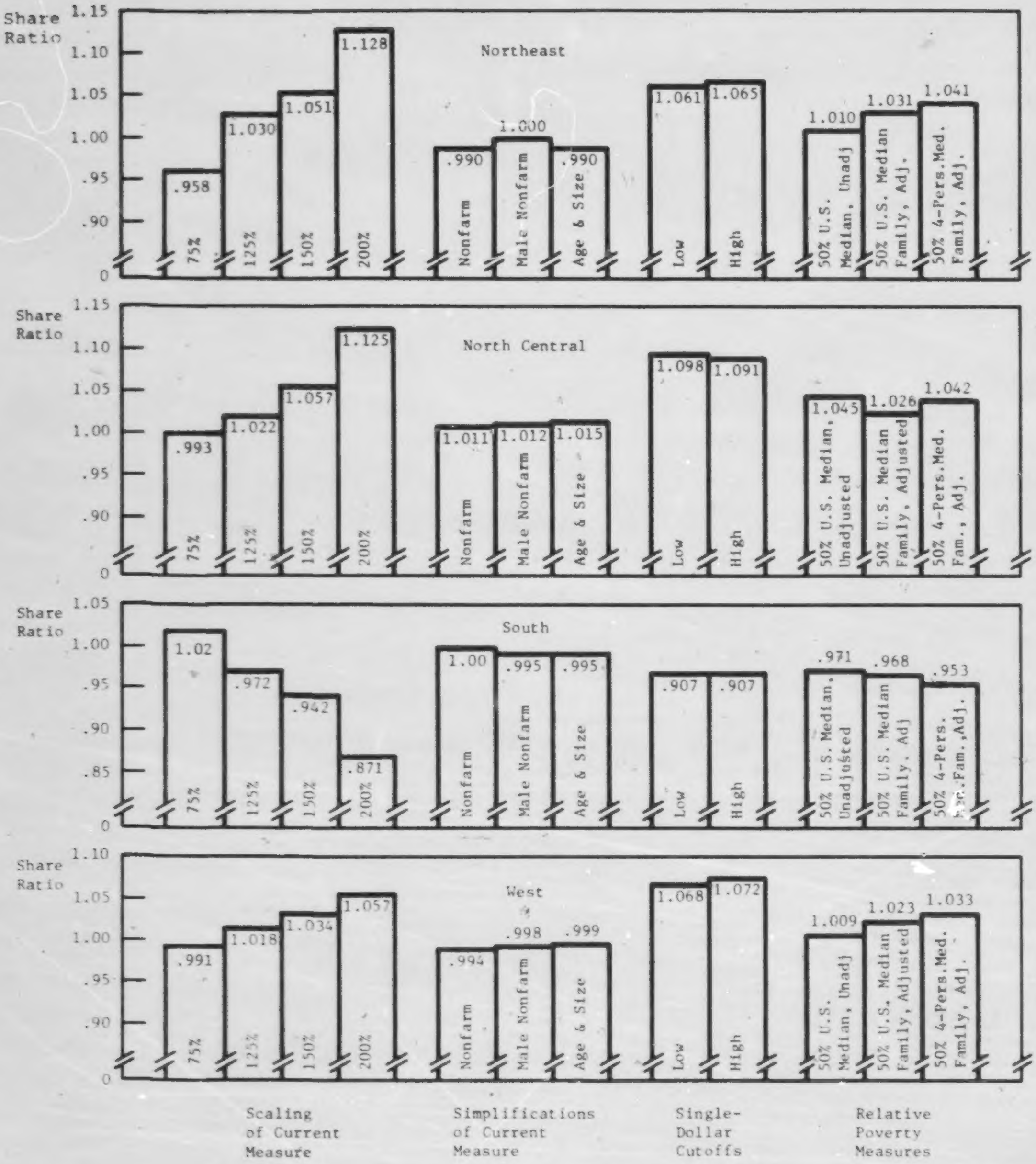
State	Universe (000s)	Current Measure	Scaling of Current Measure				Simplifications of Current Measure			Single-Dollar Cutoffs		Relative Measures		
			75%	125%	150%	200%	Nonfarm	Male Nonfarm	Age & Size	Low	High	50% U.S. Median, Unadj.	50% U.S. Median Family, Adj.	50% 4-Person Median Family, Adj.
UNITED STATES	197,810	13.9%	9.5%	19.0%	24.3%	36.3%	14.0%	14.2%	14.2%	13.9%	16.1%	17.5%	19.7%	22.4%
Alabama	3,376	25.7	18.0	33.2	40.3	53.6	25.9	26.2	26.1	21.5	25.1	30.4	34.4	38.1
Alaska	278	11.5	8.9	16.5	21.2	31.3	11.5	11.9	11.9	11.5	12.6	12.6	16.5	19.1
Arizona	1,728	15.4	11.0	20.9	26.9	40.6	15.4	15.5	15.6	14.8	16.8	19.2	21.8	24.7
Arkansas	1,882	27.5	20.0	36.3	44.2	57.5	27.9	28.3	28.3	25.9	30.1	35.5	37.5	41.2
California	19,389	11.2	7.8	15.7	20.3	30.5	11.3	11.5	11.5	12.3	14.4	14.4	16.4	18.7
Colorado	2,135	12.6	7.9	17.2	23.2	35.9	12.8	12.9	12.9	12.9	15.0	15.7	18.2	21.5
Connecticut	2,952	6.9	5.0	9.6	12.5	21.5	6.9	7.0	7.0	7.9	9.2	9.0	10.0	11.3
Delaware	534	11.6	6.8	17.0	21.5	31.6	11.6	12.0	11.8	11.2	12.9	13.1	18.2	20.0
Dist. of Col.	720	17.8	13.7	23.3	28.8	40.8	17.8	18.1	18.1	17.6	20.1	20.6	23.8	26.5
Florida	6,625	16.8	11.6	22.7	29.2	42.3	16.8	17.0	17.0	17.5	20.4	22.8	23.6	26.9
Georgia	4,465	21.1	14.8	27.6	34.2	47.0	21.3	21.5	21.4	18.2	20.9	25.2	28.5	31.9
Hawaii	734	10.4	6.5	14.7	18.8	30.0	10.4	10.5	10.5	9.9	11.2	11.2	15.4	17.6
Idaho	696	12.6	7.2	18.7	24.9	40.5	13.1	13.1	13.1	13.6	16.1	17.8	19.5	22.4
Illinois	10,835	10.4	7.3	14.2	18.2	28.1	10.5	10.6	10.7	11.2	12.8	12.9	14.7	16.8
Indiana	5,061	9.6	6.4	14.0	19.0	31.1	9.8	10.0	10.0	10.8	12.4	13.4	14.6	17.0
Iowa	2,747	11.4	7.1	16.5	22.7	36.4	11.9	11.9	11.9	13.5	15.9	16.8	17.5	20.6
Kansas	2,161	13.8	9.1	18.8	24.8	38.4	14.2	14.4	14.5	15.3	17.6	18.5	19.7	22.8
Kentucky	3,134	23.2	16.8	30.3	37.0	50.1	23.8	24.0	24.0	21.9	24.9	29.2	31.3	34.7
Louisiana	3,547	27.1	19.5	34.5	41.5	53.7	27.3	27.4	27.4	23.4	26.4	30.2	35.5	39.2
Maine	957	13.3	8.4	20.6	28.5	45.7	13.4	13.5	13.3	13.9	16.3	18.0	21.5	25.9
Maryland	3,813	10.0	7.2	14.1	18.3	28.0	10.1	10.2	10.2	10.0	11.7	12.4	14.5	16.5
Massachusetts	5,507	8.6	5.6	12.4	16.4	28.2	8.6	8.8	8.8	9.9	11.6	11.2	13.0	14.9
Michigan	8,695	9.4	6.5	13.0	17.1	27.6	9.5	9.6	9.6	10.2	11.6	11.9	13.5	15.4
Minnesota	3,711	10.7	6.9	15.2	20.8	34.1	11.3	11.4	11.4	12.2	14.1	14.7	15.8	18.8
Mississippi	2,166	35.3	27.3	43.9	51.2	64.4	35.8	36.1	36.0	30.3	34.5	40.3	45.4	49.0
Missouri	4,588	15.2	10.0	20.8	26.8	39.4	15.5	15.7	15.7	16.2	18.7	20.3	21.7	24.5
Montana	675	13.6	8.5	20.0	26.5	41.6	13.6	14.1	13.8	14.1	17.3	17.3	21.0	24.1
Nebraska	1,441	13.8	9.3	19.5	25.9	41.6	14.4	14.6	14.6	16.0	18.2	19.8	20.5	23.6
Nevada	480	8.5	5.9	12.7	17.7	28.8	8.5	8.8	8.8	10.0	11.3	11.5	13.3	15.8
New Hampshire	715	9.9	6.5	15.1	19.6	35.0	10.1	10.3	10.3	11.6	13.1	13.6	15.4	18.0
New Jersey	7,042	8.0	5.2	11.6	14.9	24.7	8.0	8.3	8.2	8.3	9.9	10.7	12.0	13.6
New Mexico	993	23.4	17.2	31.3	38.7	52.4	23.5	23.7	23.8	18.9	22.7	27.2	32.1	36.2
New York	17,824	11.4	7.5	15.9	20.2	30.7	11.5	11.8	11.6	11.9	13.8	14.2	16.4	18.6
North Carolina	4,891	19.9	13.9	27.0	33.9	47.8	20.3	20.5	20.4	17.2	20.3	25.4	28.1	31.6
North Dakota	594	15.8	9.8	22.1	29.8	46.8	16.5	16.7	16.7	14.5	18.4	22.4	23.4	26.9
Ohio	10,424	10.2	7.2	14.4	19.1	31.1	10.4	10.6	10.6	11.1	12.7	13.2	15.0	17.3
Oklahoma	2,469	18.5	12.0	25.8	32.4	47.0	18.9	19.3	19.2	19.4	22.7	24.7	26.7	29.9
Oregon	2,040	12.1	8.1	16.4	21.7	34.3	12.2	12.4	12.3	13.8	15.9	16.1	17.4	20.0
Pennsylvania	11,531	10.9	7.1	15.4	20.8	34.1	10.9	11.2	11.1	11.5	13.4	14.1	16.1	18.8
Rhode Island	902	12.4	8.7	16.6	21.0	34.0	12.4	12.7	12.7	13.3	15.1	14.9	17.2	19.2
South Carolina	2,481	24.7	17.6	32.2	38.9	51.9	25.1	25.3	25.0	20.2	23.3	28.1	33.1	36.6
South Dakota	643	17.7	12.3	25.3	33.7	49.8	19.0	19.0	19.1	18.7	22.1	24.7	26.7	31.3
Tennessee	3,833	21.8	15.2	28.6	35.8	50.0	22.2	22.4	22.3	19.5	22.6	27.4	29.6	33.3
Texas	10,885	18.7	12.4	25.5	32.1	44.8	18.8	19.0	19.0	16.5	19.4	22.6	26.5	29.8
Utah	1,038	11.7	7.4	16.5	23.1	40.3	11.8	11.8	12.0	11.8	13.5	14.7	17.2	20.4
Vermont	431	12.3	7.4	17.2	24.8	39.2	12.3	12.5	12.3	12.8	14.8	15.1	18.6	21.8
Virginia	4,452	15.5	10.8	21.7	27.5	39.7	15.7	15.8	15.7	14.2	16.6	19.5	22.5	25.6
Washington	3,299	10.0	6.6	13.9	18.2	29.3	10.1	10.4	10.3	11.9	13.8	13.4	14.5	16.8
West Virginia	1,709	23.2	16.7	30.5	38.3	53.2	23.3	23.5	23.6	22.3	25.9	29.4	31.6	35.6
Wisconsin	4,292	9.8	6.8	14.2	19.2	32.6	10.3	10.4	10.4	11.1	13.2	13.1	14.8	17.2
Wyoming	323	12.1	7.4	17.6	23.5	38.4	12.4	12.4	12.7	13.3	15.2	15.8	18.9	22.3

SOURCE: Special tabulations by the Census Bureau from the 1:100 Sample of the 1970 Census of Population.

Table 22. Percent of Related Children Aged 5-17 Years in Poverty for Selected Alternative Poverty Definitions, by State, 1969

State	Universe (000s)	Current Measure	Scaling of Current Measure				Simplifications of Current Measure			Single-Dollar Cutoffs		Relative Measures		
			75%	125%	150%	200%	Nonfarm	Male Nonfarm	Age & Size	Low	High	50% U.S. Median, Unadj.	50% U.S. Median Family, Adj.	50% 4-Person Median Family, Adj.
UNITED STATES	52,324	15.2%	10.3%	21.1%	27.5%	42.1%	15.3%	15.6%	15.6%	9.5%	11.3%	15.6%	21.9%	25.2%
Alabama	936	30.4	21.5	38.6	46.5	60.7	30.8	31.1	31.2	18.6	21.7	29.6	39.9	44.0
Alaska	84	10.7	8.7	16.7	22.6	34.5	10.7	10.7	10.7	8.3	9.5	10.7	16.7	20.2
Arizona	483	17.6	12.7	24.0	31.1	47.8	17.6	17.6	18.0	11.0	12.4	17.4	24.8	28.6
Arkansas	500	32.2	24.5	42.0	50.6	64.6	32.6	33.2	33.4	21.4	25.8	34.2	43.4	47.2
California	4,957	12.5	8.4	17.3	22.5	35.0	12.5	12.7	12.8	7.9	9.4	13.2	17.9	20.6
Colorado	595	13.3	8.2	18.2	24.7	39.7	13.4	13.4	13.8	7.6	9.2	13.3	19.0	23.0
Connecticut	763	6.8	5.0	10.0	13.5	25.2	6.8	6.9	6.9	4.8	5.8	7.5	10.2	12.2
Delaware	147	12.9	6.6	19.7	25.2	36.7	12.9	13.6	12.9	6.8	7.5	10.2	20.4	23.1
Dist. of Col.	168	23.2	17.4	32.1	39.9	57.1	23.2	23.8	23.8	16.1	19.0	26.2	32.1	36.9
Florida	1,599	19.7	13.5	26.5	33.9	49.2	19.7	19.9	20.1	12.9	14.9	20.5	27.5	31.4
Georgia	1,233	25.2	17.7	33.0	40.7	54.0	25.4	25.6	25.7	15.2	17.7	24.7	34.0	38.1
Hawaii	202	10.9	6.9	17.3	21.8	34.7	10.9	10.9	11.4	6.9	7.9	10.4	17.8	20.3
Idaho	196	12.2	6.8	18.4	25.5	43.4	12.2	12.2	12.8	7.1	8.7	12.8	18.9	22.4
Illinois	2,828	10.9	7.7	15.4	20.5	33.0	10.9	11.1	11.2	7.3	8.5	11.1	15.9	18.7
Indiana	1,375	8.7	5.8	13.9	20.1	35.2	8.9	9.2	9.2	5.8	6.6	9.6	14.5	17.7
Iowa	734	10.1	5.9	15.3	22.9	39.8	10.6	10.6	10.8	6.4	7.9	11.4	16.5	20.3
Kansas	563	13.0	8.5	18.3	25.2	41.7	13.3	13.7	13.9	8.0	9.6	13.3	19.2	22.6
Kentucky	840	25.0	18.3	33.7	41.7	56.2	25.8	26.1	26.2	16.9	19.4	26.4	34.9	39.2
Louisiana	1,050	31.2	23.1	39.5	47.6	60.6	31.4	31.6	31.9	20.9	23.6	30.6	40.6	45.1
Maine	256	14.1	9.2	23.0	32.4	53.9	14.1	14.5	14.1	8.2	10.2	15.2	23.8	28.9
Maryland	1,018	11.1	7.8	16.0	21.4	33.8	11.1	11.2	11.4	7.2	8.7	11.4	16.3	18.9
Massachusetts	1,400	8.7	5.0	13.1	17.9	34.2	8.7	8.9	8.9	5.4	6.6	9.1	13.6	16.2
Michigan	2,451	9.0	6.2	13.1	17.9	31.2	9.1	9.2	9.3	6.0	6.9	9.2	13.5	15.7
Minnesota	1,047	9.3	5.5	13.9	20.6	37.2	9.9	10.1	10.1	5.6	6.7	10.4	14.6	18.3
Mississippi	640	40.9	32.2	51.6	59.4	72.5	41.4	41.6	41.6	27.5	32.0	40.9	53.4	57.2
Missouri	1,184	14.9	9.4	20.9	28.6	43.9	15.3	15.5	15.6	9.0	10.9	15.5	21.9	25.3
Montana	196	13.3	7.5	21.4	29.6	47.4	13.3	13.8	13.3	7.7	9.7	13.3	23.0	27.0
Nebraska	386	13.7	9.1	19.9	27.5	46.6	14.5	14.5	14.8	9.1	10.6	15.3	21.5	24.9
Nevada	125	8.8	5.5	13.6	20.0	32.0	8.8	8.8	8.8	6.4	6.4	8.8	14.4	17.6
New Hampshire	190	8.4	5.3	14.7	19.5	39.5	8.4	8.4	8.4	5.3	6.3	8.9	14.7	17.9
New Jersey	1,794	8.4	4.9	12.9	17.2	29.8	8.4	8.8	8.6	5.0	6.2	9.4	13.5	15.4
New Mexico	314	28.0	20.5	36.9	44.9	59.6	28.0	28.3	28.7	16.9	21.0	27.7	37.6	42.4
New York	4,340	12.9	8.0	18.4	24.0	37.7	13.0	13.4	13.3	8.0	9.7	13.4	19.0	21.9
North Carolina	1,316	23.5	16.0	31.8	39.7	54.5	23.9	24.1	24.2	13.5	16.6	24.2	33.1	37.0
North Dakota	177	16.9	10.3	23.7	32.2	52.0	18.1	18.1	18.1	8.5	11.9	19.2	25.4	28.8
Ohio	2,816	10.1	7.2	14.9	20.8	36.4	10.3	10.5	10.6	7.0	8.0	10.7	15.5	18.4
Oklahoma	633	19.1	12.7	26.5	33.8	50.9	19.4	19.7	19.6	11.8	14.7	19.7	27.3	31.0
Oregon	528	11.2	7.6	15.3	22.0	37.9	11.4	11.6	11.4	7.6	8.7	12.5	16.7	20.1
Pennsylvania	2,893	11.0	6.7	16.6	23.3	40.7	11.0	11.3	11.3	6.4	7.8	11.4	17.2	20.7
Rhode Island	229	12.2	8.8	17.5	21.8	38.4	12.2	12.7	12.7	9.2	10.0	12.2	18.3	20.1
South Carolina	718	30.2	21.4	39.1	46.2	60.9	30.8	30.9	30.8	18.9	22.1	29.0	40.0	43.6
South Dakota	189	16.9	12.0	25.9	35.4	55.6	18.0	18.0	18.0	11.6	14.3	18.5	28.0	33.3
Tennessee	1,011	24.9	16.6	33.0	41.7	57.8	25.4	25.6	25.5	15.0	18.1	25.5	34.1	38.8
Texas	2,995	21.7	14.2	29.7	37.3	51.6	21.8	22.0	22.1	12.6	15.2	21.3	30.7	34.6
Utah	311	10.3	5.9	15.8	23.2	44.7	10.3	10.3	10.9	6.1	7.4	10.0	16.4	19.9
Vermont	118	11.9	6.5	18.6	28.0	45.8	11.9	11.9	11.9	6.8	8.5	11.9	19.5	23.7
Virginia	1,182	18.4	12.7	26.1	32.7	47.0	18.5	18.8	18.7	11.1	13.5	18.9	26.8	30.5
Washington	880	8.9	6.1	12.6	17.5	31.0	9.0	9.2	9.1	5.8	7.2	10.1	13.2	15.9
West Virginia	449	25.2	18.4	33.6	43.0	60.1	25.4	25.6	25.6	16.9	20.5	25.8	35.0	39.9
Wisconsin	1,199	9.0	6.2	14.0	20.0	37.3	9.6	9.8	9.8	5.6	6.9	9.4	14.6	17.7
Wyoming	90	10.0	6.3	16.7	24.4	42.2	11.1	11.1	11.1	6.7	7.8	10.0	17.8	22.2

SOURCE: Special tabulations by the Census Bureau from the 1:100 Sample of the 1970 Census of Population.



SOURCE: Special tabulations by the Census Bureau from the 1:100 Sample of the 1970 Census of Population.

Figure 13. Regional Share of Poor Persons Under Alternative Poverty Definitions as a Ratio of Regional Share Under Current Poverty Definition, 1969

current measure. In this situation, the South's share increases slightly. Conversely, the other regions generally increase their share of the poverty population. The share of poverty in the North Central region increases under every alternative measure.

These regional changes, for the most part, are not large. Significant changes (5 percent or more) from the share of poverty under the current measure occur only when the current poverty matrix is raised by 50 percent or 100 percent or when the single-dollar thresholds are used. The progressive simplifications of the current measure has a negligible impact on the regional distributions of poverty. Both single-dollar thresholds reduce the South's share of poor persons by 9 percent, increase the North Central's by 9 percent, and increase the West's and the Northeast's by about 6 to 7 percent. Raising the current poverty matrix by 100 percent decreases the South's share by 13 percent, increases the Northeast's and North Central's shares by 12 to 13 percent, and increases the West's share by 6 percent.

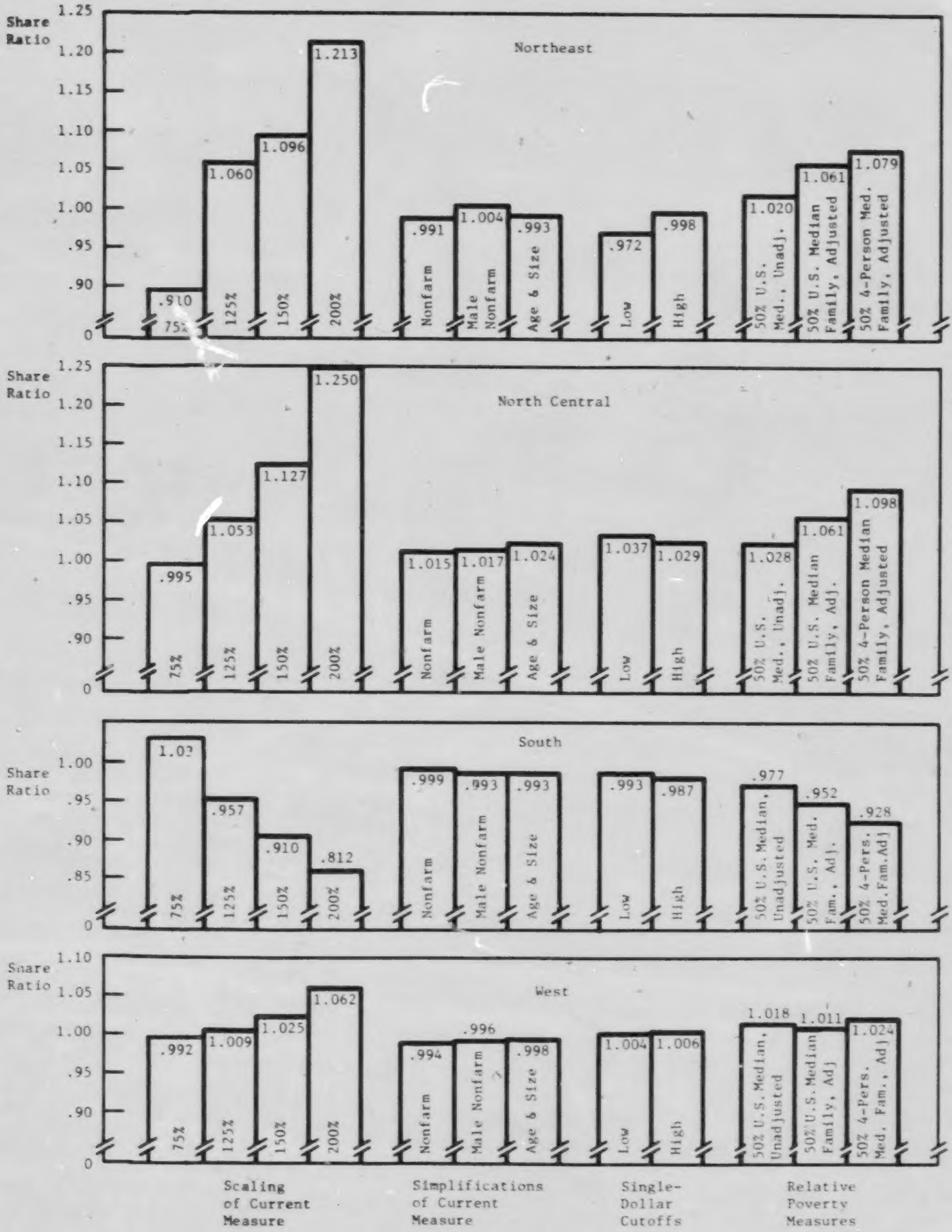
These broad regional patterns obscure some differences at the state level. For example, by using 75 percent of the current measure, Mississippi increases its share of the poverty population more than does the South as a whole, while Delaware, Oklahoma, and Texas decrease their shares. Not all Southern states consistently reduce their share of the poverty population for the other 11 alternative poverty measures, as does the South as a whole.

Several alternatives increase the positions of Florida, Maryland, Oklahoma, and Virginia, although usually only slightly. Several Southern states have greater losses than does the South as a whole. Three states in the North Central region experience a significant loss (i.e., larger than 5 percent of their present share of the national poverty population): North Dakota under both the $3,200 single-dollar cutoff and 75 percent of the current measure, and Iowa and Minnesota under 75 percent of the current measure. Other states in this region experience slight losses for some alternatives, and the pattern of significant gains varies among the states for the different alternatives. Several Northeastern states experience significant losses at 75 percent of the current measure. Rhode Island is the only exception to the general rise in the share of the poor in the Northeast states under the other alternatives; its share is reduced consistently, although significantly only once. New York does not exhibit a significant gain or loss in its share of the poor under any alternative studied. A mixed pattern is observed among the states in the Western region, with more states experiencing a relative decline in their share of poverty than in the Northeast and North Central regions. However, few of these losses are significant. New Mexico and Arizona are the most consistent losers under the alternatives, and Idaho, Montana, and Wyoming the most consistent and significant gainers in the West. Technical Paper XVIII provides detailed supporting tables of the effect of the alternative poverty measure on each state's share of the poor.

Similar patterns of regional changes are apparent for poor school-age children in Figure 14. In all regions except the West, the gains and losses are generally larger and more significant than in Figure 13. Two important differences from the geographic distribution of poor persons just described can be noted. First, with the two single-dollar thresholds, the South's share of poor school-age children does not significantly decrease. Also under these two poverty measures, fewer North Central, Northeastern, and Western states experience an increase in their share of poor school-age children than experience an increase in their share of all poor persons.

Second, the relative measures based on median income, which have very little impact on the geographic distribution of the total poverty population, do affect the geographic distribution of poor school-age children. Under these definitions of poverty, the South's share of poor school-age children declines relative to its share under the current poverty measure. Many Southern states experience significant losses; only the District of Columbia significantly increases its share of poor school-age children with the unadjusted 50 percent of median income, and only Delaware does so with the two adjusted relative measures. States in the North Central, Northeast, and Western regions generally increase their share of poor school-age children under these relative measures, frequently significantly. The relative measure defined as 50 percent of the median income of a nonfarm family of four with a male head and two children (adjusted for family size and composition with the equivalence scale in the current poverty matrix) produces the largest regional differences of these three measures. Under this measure, the South's share of poor school-age children is reduced by 7 percent; the share in the North Central and Northeast regions is increased by 10 percent and 8 percent, respectively. Only the West does not appreciably change its share under this measure.

In addition to the regional patterns, it can be observed that the more populated states as a group increase their share of poor persons more than other states as the poverty lines are increased. When the poverty lines are set at 150 percent of the official thresholds, the national poverty rate is increased by 10.4 percentage points; however, over half of this increase is attributable to low-income persons living in the eleven most populated states. As a group, these states contain 48 percent of the poverty population under the current poverty thresholds and 51 percent of the poverty population under the thresholds set at 150 percent of the current thresholds.



SOURCE: Special tabulations by the Census Bureau from the 1:100 Sample of the 1970 Census of Population.

Figure 14. Regional Share of Poor School-Age Children Under Alternative Poverty Definitions as a Ratio of Regional Share Under Current Poverty Definition, 1969

NOTE TO CHAPTER V

1. This chapter draws heavily from an analysis found in Technical Paper XVIII, Characteristics of Low-Income Populations Under Alternative Poverty Definitions, prepared by Lawrence Brown.

VI. ANALYTIC AND STATISTICAL AGENDA

In Chapter IV, it was noted that some poverty definitions cannot be constructed from existing data. Even modest increments to existing surveys and statistical series may not provide the data needed to make geographic adjustments to the poverty cutoffs; to establish or routinely update the poverty cutoffs on the basis of housing, transportation, medical, and other needs of the poor; to more accurately measure income and to measure in-kind income other than food stamps; or to count and characterize the poverty population in small areas (school districts, cities, counties) at time intervals of less than ten years. Moreover, analytic studies must be undertaken before such surveys can be used in measuring poverty or for such other purposes as modifying the administrative structure of social programs or performing economic impact analyses. This chapter describes research and statistical activities which could lead to improved poverty measurement. The importance attached to particular types of poverty definitions or their attributes will determine whether such efforts should be pursued.

It is difficult to predict the cost and time necessary to complete research and statistical projects. Effective projects depend on cooperative efforts among Federal departments, agencies and other components of government and the private sector. Furthermore, the analytic studies discussed here are more likely to be useful for improving our poverty measure if they are performed in consultation with those performing poverty-related analyses and program administration. The major Federal executive departments and agencies involved in poverty measurement and in the analytic and statistical activities discussed in this chapter are represented on the Poverty Studies Task Force which prepared this report. For surveys bearing on poverty measurement, the Federal departments, state and local governments, and the public generally depend on Federal statistical agencies, particularly on the Bureau of Labor Statistics and the Bureau of the Census.

Analytic Studies

Educational Disadvantage

The Preface discussed significant on-going research related to identifying and characterizing poor and needy children eligible for assistance under Title I of the Elementary and Secondary Education Act (as amended), as well as to evaluating the effectiveness of compensatory education programs. This research will make it possible to compare economic need and educational disadvantage, to test the feasibility of alternative techniques to estimate the numbers of poor children within counties and school districts, and to simulate the effects of alternative allocative criteria and formulas on the Title I program. These studies will aid in assessing the importance of analytic studies and survey efforts for Title I purposes.

Setting a Poverty Level

Public Policy on Poverty Levels

The selection and use of one or more poverty levels for programmatic purposes is essentially a policy judgment. Analyses could sharpen the intuition of public officials by arraying the implications of various approaches. Some of the key issues that are susceptible to policy analysis are: given program objectives, what population definitions are most appropriate? What are the implications of constructing poverty lines for program purposes differently for the employable and unemployable, aged and young, healthy and disabled? If an absolute need standard is derived, which programs designed to help the needy are now serving or not serving them?

Scientific Standards

The development of accepted standards of need for shelter, transportation, medical care, clothing, and other essential elements of expense might eliminate some of the subjectivity in current definitions. If the relationships between these expenses and good health, safety and other seemingly objective norms could be established, such standards could be combined with price and income data for reasonably comparing the extent of poverty from place to place and over time. Unfortunately, even such rigorously defined standards would be based in part on judgment. For example, good health and safety cannot be defined absolutely, and equally nutritious food plans can be constructed for a very wide range of cost levels. Although it is unlikely that rigorously defined standards of need can be developed in the near future, the potentials of such standards suggest that efforts might be directed towards resolving the relevant analytic issues.

Market Basket Studies

Lacking scientific standards, more arbitrary and subjective market baskets or multipliers might be developed. Items not listed might be assigned a cost dictated by analytic techniques which generally depend on preconceived notions of an adequate total income level. An example is the Department of Agriculture's thrifty food plan which chooses and prices food items after examining actual food buying patterns as well as nutritional standards. The cost of shelter might be set by stipulating a percentile in the distribution of market values for rental units of a given size, and medical care could be priced at prevailing rates of medical insurance.

An examination of consumption and expenditure patterns of families with incomes near the currently defined poverty cutoffs might prove a useful description of the style of life which can be supported at low-income levels. A similar analysis could be made of expenditure patterns of those components of the population which are disproportionately represented in the low-income levels, such as the elderly, minorities, families with a disabled head, and female-headed families. This could contribute to an understanding of the specific needs of these groups as compared to the population as a whole. Such analyses, however, would be difficult with currently available expenditure data.

Standards Based on Consensus

Setting an income level to divide the poor from the non-poor necessarily involves significant elements of subjectivity. The problem can be approached systematically, however, so that the subjectivity is documented explicitly rather than implicitly. Some believe that the use of public opinion methods might also assist in determining a consensus on the appropriate level. One might also appraise the various legislative and administrative eligibility criteria and program benefit levels to determine whether an implicit consensus about the overall level of need can be derived from them. However, the latter approach might be misleading because such levels were never intended to be used for such a purpose, because they are widely and sometimes deliberately inconsistent, and because virtually all methods of weighting them are arbitrary.

Adjustments for Family Size and Composition

The development of a complete market basket of goods and services as a poverty threshold would provide a basis for varying the bundle by family size and composition. Without such a market basket, other methods for determining equivalent incomes must be used. Both the relevant attributes and the size of adjustments need to be determined. Because no currently proposed methodology (including the current procedure) is completely satisfactory, an examination of both theoretical and empirical constructions of equivalence scales is desirable.

Geographic Cost-of-Living Differences

The limitations in the analysis of geographic cost-of-living differences have been discussed in earlier sections of this report. A range of survey activities to overcome the scarcity of data is discussed later in this chapter, and analytic studies which must be performed before geographic variation can be introduced are described below:

1. An analysis of the feasibility of undertaking data collection on a scale necessary to derive accurate estimates of geographic differences for policy and administrative purposes.

2. An assessment of the reliability of alternative methodologies for developing equivalent levels of satisfaction, development of a theoretical or empirical framework for assessing the basic reasons underlying observed differences in living costs across geographic divisions or boundaries, and an analysis of how differences in the choice of goods affect expenditures in different areas. The analysis should include an

assessment of the effect on area differences in living costs due to unavailability or significantly lower quality of services such as major health facilities or public services.

3. An analysis of price differences between areas based on a low-income level market basket (since there is evidence that geographic price differences vary according to the cost level of market basket choices).

4. An exploration of special problems associated with surveying the prices faced by the low-income population such as comparing goods of different age, quality and characteristics.

5. An analysis of the administrative and economic impact of adjusting poverty lines for geographic differences and the degree to which rural-urban, interregional and other population migrations are affected.

Updating the Poverty Cutoffs

All types of poverty definitions require periodic updating for changes in prices over time. A special poor person's price index may be better than currently available indexes if the appropriate market basket items are identified and priced. The techniques for developing such an index currently exist. The required expanded expenditure and price surveys are discussed later in this chapter.

Income and Resources

A New Income Survey, which is described later in this chapter, would provide more accurate information on income and resources. Such information might also allow alternative income and resource definitions using different accounting periods or "income items" not possible with current data. In addition to new survey information, several analytic studies are required if the definition of income is to be altered. These include a study of the proper valuation of in-kind benefits, of means of collecting household information on benefits other than food stamps, of after-tax income, of possible adjustments for wealth, and of the development of a methodology for collecting information about wealth.

Surveys

Analytic studies may indicate that geographically sensitive and more accurate thresholds cannot be developed without a geographically sensitive pricing survey, a low-income consumption survey, a household food consumption survey, and an expanded income survey. However, there is no way to assure that new surveys can correct all of the difficulties of deriving such thresholds. Each of the surveys is expensive either on a one-time or recurring basis, but the costs depend on the amount of geographic and other detail required. The initial costs are greater, of course, than those of repeating the survey. It should be added that such surveys would be useful for purposes other than improved poverty measurement. Defining the appropriate survey package therefore requires more analytical work.

New Income Survey

The specific objectives of a New Income Survey might be to provide: (1) more accurate estimates of the income distribution by reducing the underreporting of cash incomes at the extremes of the income distribution and by including as much non-cash income and unrealized income from assets as possible as part of the income estimates; (2) the collection of intra-year income information to obtain data that more closely approximate accounting periods associated with some Federal programs and to minimize respondents' recall difficulties; and (3) the measurement of assets and various criteria of need so that better estimates of the number of persons eligible for participation in major programs can be made and so that a relationship between wealth, income, and poverty can be better assessed. It is also desirable, although expensive, to collect longitudinal data and data capable of producing statistically reliable state or other subnational area estimates of key characteristics.

A New Income Survey would be helpful in overcoming limitations in existing data sources by providing more accurate and detailed statistics on income, assets, and eligibility for and participation in major Federal transfer programs. In addition to providing more accurate estimates of the poverty population, the survey data could provide information for assessing the impact of present and proposed Federal programs.

Estimates of the annual cost of such a survey range between $10 and $15 million. The two main factors associated with total cost are the size of the longitudinal component and the capability of producing reliable subnational estimates. A survey capable of producing nationally representative data and which includes a relatively small longitudinal panel would cost about $5 million. The higher funding levels could yield state estimates and would contain a larger longitudinal component.

Initial development of such a survey is now being undertaken within the Office of the Assistant Secretary for Planning and Evaluation in the Department of Health, Education, and Welfare. Expansion of the survey to produce state estimates could take place after 1980. The planning and design work associated with the Survey of Income and Education which was legislatively mandated by PL 93-380, section 822, has served as a useful stimulus for the development of the income survey.

Geographically Sensitive Pricing Survey

A geographically sensitive pricing survey would provide price data for comparing the prices of such items as food, shelter, clothing and medical services, between geographic areas and over time. The data collected from the pricing survey, in conjunction with data from a proposed low-income consumption survey, may enable such comparisons to be based on the market baskets of goods and services purchased by the low-income population. The survey probably could be an augmentation -- in terms of area coverage, reference population, and additional price data necessary for inter-area comparisons -- of the BLS Consumer Price Index price collection program.

The poverty line or income standards cannot be adjusted for differences in living costs or price levels among areas and for area changes in living costs or price levels over time, until reliable consumer price data are collected by geographic area. On an area basis, such data may also aid in analyzing price behavior in different geographic areas during periods of unusual changes in economic conditions, and in evaluating the differential economic impact of Federal programs.

The BLS Consumer Price Index price collection program could probably serve as the basic vehicle for collecting time series data for the pricing survey. Research and testing must be performed, however, before attempting to add areas such as "rural areas" to the program and before attempting to integrate the collection and compilation of the consumer price data necessary for inter-area comparisons.

The cost of a geographically sensitive pricing survey could be very high -- some multiple of the BLS survey depending on the degree of detail planned. The BLS revised CPI program (which will estimate price indexes for 2 types of families for the urban U.S., for 28 major urban areas, and 12 areas classified by region and size of area) costs approximately $40 million for the revision process alone and $7 million annually to maintain a monthly pricing program.

Low-Income Consumption Survey

A low-income consumption survey resembles the consumer expenditure surveys which collect data on actual expenditures of American families and which have been conducted approximately every ten years by the Bureau of Labor Statistics. These surveys differ primarily in sample size and composition. The survey could probably supplement the new BLS continuing consumer expenditure survey, however, which is currently being planned and which is tentatively scheduled to begin in fiscal year 1979. Research could begin immediately on developing a sample and survey design appropriate for collecting information on low-income families living in specified areas. Although the cost of such a survey cannot be estimated at this time, it is estimated that the BLS continuing consumer expenditure survey program will cost $6 million annually to maintain and would have to be expanded considerably in size to provide accurate break-outs by income and family size. It might also be important to mount separately or concomitantly surveys of families participating in specific programs like food stamps, AFDC, unemployment insurance or others, to see the impact of such programs on consumption patterns. The educational characteristics of children from low-income families might be another important component.

Household Food Consumption Survey

A nationwide study of household food consumption that provides detailed information on the kinds and amounts of foods used and prices paid for foods by the total household and the food intake of individuals within the household is required for the development of realistic standards of food needs, such as the Department of Agriculture food plans. The most recent such study was conducted in 1965-66. A new study is being planned for 1977 at an estimated cost of $5 million.

Summary

Funding all of these activities could lead to more accurate and current definitions of poverty. The costs are high, however, and decisions on whether any of them should be undertaken depend on the value attached to the analytical or administrative uses to be made of the data. The greatest expense would be incurred in developing sufficient information to permit counting the poor by state more frequently than once every ten years.

VII. PROGRAM IMPACT

This chapter examines the effects on Federal programs of changing the poverty measures and updating the poverty count. The precise impacts of changes in poverty measurement are difficult to estimate, since they will depend in large part upon subsequent decisions within the legislative and executive branches. A full discussion of the factors that would affect these decisions is beyond the scope of this study. The following discussion is therefore presented for illustrative purposes. The first part describes in general terms the effects of a change on all major Federal poverty-related programs, assuming that no offsetting changes in law or regulation were made. The second part presents the results of a quantitative analysis of the effects on the program of financial aid authorized by Title I of the Elementary and Secondary Education Act of 1965 as amended by the Education Amendments of 1974.

General Program Impact

It is important at the outset to distinguish between changes in the officially designated poverty matrix and changes in one of the specific administrative income eligibility standards or poverty measures that can be developed through the adaptation of the existing data series. Changing the officially designated poverty matrix could affect the way both the government and the general public view poverty, which could in turn affect how the nation sets its goals in attempting to eliminate or reduce the extent of poverty.

It is helpful when considering the direct impact of a change in the official poverty series, to distinguish between programs that identify poverty of the target population by means of the official series from programs that use other income tests or income levels to identify the target population. Such programs as the food stamp program, Title II of the Housing and Community Development Act of 1974, the Supplemental Security Income Program, Aid to Families with Dependent Children, Title XX of the Social Security Act, and Medicaid belong to the latter category. Except for the food stamp program, which partially uses the official poverty series, a change in the series would have no direct impact on these programs as they are currently defined. An indirect impact may result from the fact that many planners at both the Federal and state levels instinctively look to the Federal poverty matrix for guidance in setting the income levels for such programs or in interpreting how effectively these programs reach needy populations.

There are many reasons why income transfer programs, such as Aid to Families with Dependent Children and Supplemental Security Income, are not tied directly to the poverty line. Program parameters such as benefit reduction (tax) rates or basic benefits or allotments determine levels of income at which persons are no longer eligible for program benefits. The setting of these parameters will depend upon specific program goals such as the provision of work incentives. Imposing a cutoff of benefits at the poverty line independent of the parameters of the program produces a sudden decrease in benefits as a person's income reaches the poverty line. This effect, often called a "notch," may cause serious inequities or adversely affect work incentives. Most importantly, the purpose of a program may not be congruent with the Federal statistical definition of poverty. Moreover, there is no consensus among the public, or even among selected groups, that poverty generally should be eliminated regardless of cost.

The following programs refer directly to the official poverty matrix: Title I of the Elementary and Secondary Education Act, Title I of the Housing and Community Development Act of 1974, the Community Services Act of 1974 (formerly the Economic Opportunity Act), the Comprehensive Employment and Training Act, the food stamp program, and the child nutrition programs of the Department of Agriculture. In addition, some health programs, particularly those relating to mental health and community health centers, and some education programs use poverty cutoffs which are related to the official poverty lines through administrative guidelines. These programs would probably be affected by a change in the official poverty statistical series.

For these programs, two kinds of effects need to be examined: first, potential changes in the Federal budget and second, potential changes in the characteristics of the recipients of program benefits. The latter kind of change would generally have a greater impact and it can be gauged from the discussion in Chapter V of the statistical characteristics of poor populations under alternative poverty definitions. Only in a few large programs would the Federal budget be greatly affected.

In order to understand this impact, it is necessary to recall the distinction made in Chapter I between programs that use a formula for the distribution of Federal funds and those that establish eligibility criteria based on the income levels. Programs with a formula for the distribution of funds based on the official poverty line are Title I of the Elementary and Secondary Education Act, Title I of the Housing and Community Development Act of 1974, and grants made to Community Mental Health Centers with disproportionate poverty populations in health catchment areas. A modification of the official poverty line would not result in a changed Federal budget for these programs because the standards affect the distribution of an amount of money which is fixed by authorization and appropriation. The poverty matrix determines the relative share of the appropriated amount that each state or unit of government receives.

Similarly, the Comprehensive Employment and Training Act distributes a fixed amount of funds to general-purpose governments partly on the basis of the number of families with incomes less than a certain amount. The funds are then used by the local governments to establish employment and training programs to serve needy individuals. A change in the threshold might change the composition of the population benefited but would not affect total expenditures.

The following programs use the poverty series as a basis for establishing income eligibility for program assistance: food stamp program, child nutrition programs of the Agriculture Department, Title II of the Housing and Community Development Act of 1974, programs sponsored by the Community Services Act of 1974, the local use of funds from the Comprehensive Employment and Training Act, and various locally administered health and education programs. Except for the child nutrition program and possibly the food stamp program, the budgetary impact of a change in the official poverty matrix would not be great, but it is almost impossible to predict accurately for three reasons. First, the number of people participating in a program differs from the number of people who are eligible. Although the participation rate is difficult to predict, since it varies from place to place and time to time, it probably would not increase at the same rate as would the poverty line. Second, the eligibility criterion for participation in these programs is seldom based exclusively on the poverty thresholds. Normally, other eligibility criteria, for example, those relating to the employability characteristics under the Comprehensive Employment and Training Act, come into play. Some of these programs make welfare recipients automatically eligible for benefits. Finally, in some cases, the poverty thresholds are used to distribute to eligible persons limited Federal funds on a first-come, first-served basis or on a most-in-need basis. An example is the Comprehensive Employment and Training Act. Local governments use these funds to establish employment and training programs for eligible participants. Eligibility is based partly on the poverty income guidelines (as well as on other criteria) and partly on the basis of the amount of funds made available to them. Another example is the Community Action Agencies, which adopt the income eligibility guidelines published by the Community Services Administration (formerly the Office of Economic Opportunity) to distribute services to needy persons.

In some programs, eligibility is open-ended, in that the benefits are provided to all eligible persons requesting them; such programs would force the Federal budget upward if the poverty line were increased. The child nutrition programs of the Department of Agriculture, for example, would be affected significantly by an increase in the poverty line. A 25 percent increase in the poverty line could result in an increase of more than 30 percent in the program budget under current law.

A smaller effect would occur in the food stamp program because its income eligibility criteria already generally exceed the poverty lines for most family sizes. There would be a much more significant effect on the food stamp program if it were re-defined primarily on poverty criteria such as in recently proposed legislation and regulations. Obviously, the structure of the poverty guidelines would then be a most crucial program parameter.

Generally, most of the open-ended programs are the income or in-kind transfer welfare programs. As mentioned earlier, these generally do not use the poverty matrix either for setting the income eligibility standards or the benefit levels.

Impact on Title I of ESEA

Background

The Elementary and Secondary Education Act as enacted in 1965 provided for allocating funds to counties according to a formula that defined the children to be counted and the payment rate. The formula children included children aged 5 to 17 in families with incomes under $2,000 in the 1960 Census, all children in families with AFDC payments of $2,000 or more, as well as foster and institutionalized children. The payment rate was set at 50 percent of the state expenditure per pupil or 50 percent of the national average expenditure per pupil, whichever was higher.

Several years after the law was put into effect, it was observed that the formula was allocating an unexpectedly large share of the funds to the large urban states. Two factors combined to bring about this result. The poverty population (children in families with incomes under $2,000 in 1959) was fixed, while the AFDC population grew each year because of rising payments and mushrooming caseloads, so that in 1972 the AFDC component constituted more than 50 percent of the eligible population compared with 10 percent of the total in 1965. The large urban states generally set higher welfare payment levels and broadened eligibility for welfare, which automatically increased their share of the formula funds. During this seven-year period, for example, California, New Jersey, and New York more than doubled their percentage of the national total of Title I funds.

The increased payments to large urban states were also due in part to the payment rate. Since spending per pupil in these states is characteristically higher than the national average, the effect was to systematically allocate higher Title I payments to the larger states. Therefore, both elements in the allocation formula -- the definition of the formula children and the payment rate -- gave benefits to the urban states that were higher than expected.

In 1974, the present allocation formula was adopted after considerable debate. An attempt was made to correct some of the more severe defects in the earlier formula, but the basic allocation procedure remained much the same. Children identified by the formula comprised the following three groups: children 5 to 17 in poor families as defined in the 1970 Census, two-thirds of the children in families receiving AFDC payments exceeding the poverty line, children institutionalized either because of neglect or delinquency, and children in foster homes supported with public funds.

The payment rate was also revised. The minimum rate was set at 40 percent of 80 percent (i.e., about one-third) of the national average expenditure per pupil, and the maximum rate was set at 40 percent of 120 percent (i.e., about one-half) of the national average. In addition, each county was guaranteed a payment of at least 85 percent of the payment received in the preceding year, a provision referred to as the "floor" and as the "hold harmless" provision.

An analysis of the impact of changing the poverty definition was carried out by calculating the allocation of $1.5 billion in Title I funds in 1975 under the 13 definitions of poverty defined in Chapter V. (Data were from the one percent sample of the 1970 Census.) A concomitant change was made in the AFDC population above the poverty line to reflect the change in the level of the poverty definition. All 13 poverty concepts were tested, and 5 of them are discussed here in detail: the current measure, 125 and 150 percent of the current measure, a single poverty threshold based on half of the national median family income, and a single poverty threshold based on the poverty threshold for a nonfarm family of four. The results for most of the other poverty definitions fall somewhere within the range of the 5 presented here.

There is good reason to be concerned about allocating Title I funds in 1975 on the basis of the 1970 Census estimates of the number of poor children in each state. During the past few years, the nation has suffered a recession which has undoubtedly affected some parts of the country more than others. The current allocation formula assumes that the distribution of poor children by state is the same today as it was in 1970, which is unlikely. To test this assumption, allocations based on the 1970 Census estimates were compared with the allocations based on estimates of the number of poor children by state for 1973, the most recent year for which such estimates could be made. Two estimates for 1973 were used: one by the Bureau of the Census and the other by the Regional Economic Analysis Division (READ) of the Department of Commerce. The methods used are described in a paper by Herman Miller and Abdul Khan, "Methodology for Estimating the Number of Children in Poverty for States and Counties," to be published in the near future by the Bureau of the Census.

In analyzing the impact of revised poverty definitions and of updating the count, the basic tabulations were performed assuming that the current allocation formula was unchanged. In order to identify separately the effects of various components of the formula, additional tabulations were made to explore the impact of: the hold harmless provision (the 85 percent floor); omitting the AFDC children; and omitting the AFDC children and the CEPP factor. The use of current expenditures per pupil (CEPP) as a basis for allocating Title I funds is a very important element in the current formula. As noted above, the eligible population in each state is multiplied by 40 percent of CEPP in the state (with a minimum of about one-third of the national average and a maximum of about one-half of the national average) to arrive at the dollar entitlement for each state. A measure of the effect of CEPP can be obtained by comparing the amount each state would receive if funds were allocated only on the basis of the number of poor children, with the amount the state receives using both CEPP and the number of poor children. As will be noted subsequently, CEPP has a much greater influence on the allocation of Title I funds than any of the other factors in the present formula.

The results of the analysis of the impact on the Title I program of changing the definition of poverty, and taking into account the other factors just named, are presented in several stages:

- A sketch of the results based on five states representing differences in various regions and in size of population.
- A detailed analysis for all states of the impact of changing the definition of poverty.
- A detailed analysis for all states of the impact of updating the 1970 Census estimate of the number of poor children.
- An analysis of the impact of revising the allocation formula.
- An analysis of the joint impact of changing the poverty definition and simultaneously updating the 1970 Census count.

Impact on Selected States

Before turning to the detailed tables, it is useful to consider how changes in the definition of poverty or in the various components of the Title I formula might affect the allocation of funds in 1975. One large state was selected for each region of the country (California, Illinois, New York, and North Carolina), and Mississippi was selected as a low-income Southern state. An examination of the detailed figures for these five states provides a better understanding of the more comprehensive analysis presented later in this chapter, of the results for all states. Table 23 shows the impact on the allocation of funds for these five states of changes in the formula, of updating the count of poor children, and of retaining or eliminating the hold harmless provision. Similar data are shown in Table 24 for the same states, measuring the impact of a change in the poverty definition.

Column 3 of Table 23 indicates that, under the current formula, New York received $191.0 million in Title I funds in 1975. Using the same formula without the floor, New York would have received only $169.9 million (column 1). Indeed, in 1975 the floor served to take a little away from most other states and give it to New York. Note that three of the other five states would have received slightly more funds without the floor than with it.

A comparison of columns 1 and 2 shows the impact of updating the count of poor children. If the current formula had been used, but only the count of poor children updated, New York would have received $194.5 million rather than $169.9 million. This same change would increase the funds going to California, but it would have decreased the funds going to Illinois, North Carolina, and Mississippi. A more detailed examination of the data for all states will show that such a change would in fact increase the allocation to nearly all of the largest states, largely reflecting a redistribution of poor children among states during recent years.

An examination of column 1, lines 1 through 3 for each state shows the impact of other changes in the allocation formula on the Title I allotments.

Table 23. Impact of Changes in the Allocation Formula
on the Distribution of Title I Funds, 1975
(Millions of dollars)

State and Allocation Formula	Allocations Without Floor		Allocations With Floor	
	1970 CIP[a]	1973 CIP	1970 CIP	1973 CIP
New York:				
Current formula[b]	$ 169.9	$ 194.5	$ 191.0[c]	$ 197.7
CEPP and Poverty only	131.5	155.9	188.7	193.0
Poverty only	102.5	122.4	185.9	187.6
Illinois:				
Current formula[b]	83.6	76.9	81.5[c]	74.5
CEPP and Poverty only	72.9	63.9	72.8	69.2
Poverty only	58.9	52.0	67.8	66.8
California:				
Current formula[b]	127.4	139.2	124.1[c]	133.9
CEPP and Poverty only	122.2	135.3	117.1	126.3
Poverty only	116.0	129.4	110.7	118.8
North Carolina:				
Current formula[b]	46.1	39.7	47.1[c]	45.1
CEPP and Poverty only	52.0	45.3	49.4	46.2
Poverty only	60.9	53.4	53.5	48.8
Mississippi:				
Current formula[b]	38.2	30.9	37.4[c]	33.4
CEPP and Poverty only	43.6	35.7	40.5	35.0
Poverty only	51.0	42.0	44.5	37.7

SOURCE: Special tabulations prepared by the National Center for Education Statistics.

[a] CIP represents the number of children in poverty.

[b] The current formula evidences CEPP, the number of children in AFDC families with incomes above the poverty line, and the number of children in poverty.

[c] Estimated actual allocation in 1975.

Under the current formula, New York would have received $169.9 million, assuming no floor. If the AFDC population with incomes above the poverty line were excluded from the formula, the allocation of funds to New York would have dropped sharply to $131.5 million. If the funds were alloted only on the basis of the number of poor children, New York's allotment would again have been cut sharply to $102.5 million. Changes of a similar nature may be noted for Illinois and California. The picture is quite different, however, in North Carolina and Mississippi. These Southern states would receive substantial increases in funds if the allocation were based entirely on the count of poor children. These differences largely reflect the higher expenditures per pupil in the larger states and their more generous AFDC payments.

Table 24. Impact of Alternative Definitions of Poverty on Allocation of Title I Funds, 1975 (Millions of dollars)

State and Allocation Formula	Current Poverty Concept[a]	125% of Current Poverty Line	150% of Current Poverty Line	Single Poverty Line	
				$4795[b]	$3748[c]
New York:					
Current formula[d]	$ 173.3	$ 153.1	$ 143.1	$ 156.9	$ 188.6
CEPP and Poverty only	136.4	138.1	137.6	137.0	136.9
Poverty only	106.3	108.3	108.5	107.1	106.9
Illinois:					
Current formula[d]	82.4	76.4	75.1	76.5	93.1
CEPP and Poverty only	71.9	72.7	74.3	71.4	75.2
Poverty only	55.0	59.0	60.7	57.9	60.8
California:					
Current formula[d]	128.0	124.1	122.2	129.0	135.7
CEPP and Poverty only	123.0	121.8	121.1	126.3	124.2
Poverty only	116.8	116.3	116.2	120.1	118.2
North Carolina:					
Current formula[d]	44.3	46.1	45.2	46.8	38.8
CEPP and Poverty only	49.9	48.3	46.0	49.9	47.3
Poverty only	58.4	56.8	54.4	58.5	55.4
Mississippi:					
Current formula[d]	37.3	36.1	32.8	38.1	35.9
CEPP and Poverty only	42.3	38.1	33.5	41.0	44.3
Poverty only	49.5	44.8	39.6	48.1	52.0

SOURCE: Special tabulations prepared by the National Center for Education Statistics.

[a] These figures differ from the corresponding figures in Table VII-1 because they are based on tabulations for states, whereas the data in Table VII-1 are based on county tabulations summarized to state levels.

[b] 50% of the U.S. median family income in 1969, as indicated by the 1970 Census.

[c] Weighted average poverty threshold for nonfarm 4-person family in 1969.

[d] The current formula includes CEPP, the number of children in AFDC families with incomes above the poverty line, and the number of children in poverty.

Table 24 shows the impact of a change in the poverty measure on the allocation of Title I funds among the 5 states. Five different poverty concepts are considered: The current poverty concept, 125 percent and 150 percent of the current poverty line, a single poverty threshold based on one-half of the U.S. median family income in the 1970 Census ($4,795), and a single poverty threshold based on the poverty threshold for a nonfarm four-person family in 1969 ($3,748). The two single poverty thresholds were selected to show the differential impact of vastly simplified poverty concepts selected at different points on the income distribution.

If the current allocation formula is used, but the poverty line is increased by 125 percent or 150 percent, New York would have an appreciable reduction in funds. This is primarily because the influence of the AFDC add-on would disappear. The other 4 states, however, would not be as significantly affected. An examination of the figures for all states will show that most of them would not be appreciably affected by such a change in the poverty concept. More significant is the fact that a simplified poverty concept based on half the U.S. median family income, without adjustment for family size and composition or farm-nonfarm residence, would also not appreciably change the allocation of Title I funds among any of the states shown in Table 24 (except New York), nor, as we shall see later, would it appreciably change the amount of funds received by most states. In other words, we could achieve largely the same distribution of Title I funds we now have by using other poverty concepts.

A single poverty threshold selected somewhat lower on the income distribution (column 5) would alter the allocation of funds appreciably, primarily because of its impact on the AFDC population. If the poverty threshold for a nonfarm family of four persons were used as the single poverty threshold for all families, New York would receive $188.6 million rather than $173.3 million. Illinois and California would also have substantial gains if such a change were made, whereas North Carolina and Mississippi would have slight reductions. The reason for these changes is that as the poverty line is lowered, more AFDC families are included in the eligible population. Such families are disproportionately located in the high-income Northern states. It is especially significant that excluding the AFDC population from the formula (i.e., allotting funds on the basis of CEPP and poverty only), would not cause the amount of funds received by each state (except Mississippi) to vary appreciably under any of the poverty definitions.

Impact of Changing the Poverty Definition

Table 25 shows, for each of the 50 states and the District of Columbia, a comparison of the Title I funds received under the current poverty concept with the funds that would be received if the poverty line were increased by 25 percent or 50 percent, and commensurate changes were made in the number of AFDC children above this new poverty line.

For purposes of analysis, four different groupings of states have been established, based on size: (a) the 12 largest states -- these states have over 5 million inhabitants and receive about 55 percent of the Title I funds; (b) 12 moderately large states -- these states have 3-5 million inhabitants and receive about 25 percent of the Title I funds; (c) 14 moderately small states -- these states have 1-3 million inhabitants and receive about 15 percent of the Title I funds; and (d) the 13 smallest states -- these states each have less than 1 million inhabitants and receive about 5 percent of the Title I funds.

Table 25. Comparison of Title I Funds That Would be Received Using 125% and 150% of the Present Poverty Line with the Amount That Would be Currently Received

(Millions of dollars; assumes a total allocation of $1.5 billion)

State	Current Definition (1)	Increased Poverty Line		Absolute Change		Relative Change	
		125% (2)	150% (3)	(2-1)	(3-1)	$\frac{2}{1}$ x 100	$\frac{3}{1}$ x 100
12 Largest States							
California	$128.0	$124.1	$122.1	$ -3.9	$ -5.9	97%	95%
New York	173.3	153.0	143.1	-20.3	-30.2	88	83
Pennsylvania	78.7	82.2	87.2	3.5	8.5	104	111
Texas	93.3	97.7	96.7	4.4	3.4	105	104
Illinois	82.4	76.4	75.1	-6.0	-7.3	93	91
Ohio	48.5	53.4	58.1	4.9	9.6	110	120
Michigan	61.8	56.2	55.2	-5.6	-6.2	91	89
New Jersey	44.2	42.7	41.5	-1.5	-2.7	96	94
Florida	48.7	50.2	50.6	1.5	1.9	103	104
Massachusetts	30.3	29.4	29.9	-0.9	-0.4	97	99
Indiana	19.5	23.4	26.5	3.9	7.0	120	135
North Carolina	44.3	46.1	45.2	1.8	0.9	104	102
12 Moderately Large States							
Missouri	28.2	29.9	32.0	1.7	3.8	106	114
Virginia	34.4	37.1	36.6	2.7	2.2	108	107
Georgia	44.4	44.7	43.4	0.3	-1.0	100	98
Wisconsin	24.6	26.4	28.5	1.8	3.9	107	116
Tennessee	36.1	36.6	36.5	0.5	0.4	101	101
Maryland	25.2	26.8	27.8	1.6	2.6	107	111
Minnesota	24.0	24.9	27.8	0.9	3.8	104	116
Louisiana	48.5	47.1	44.7	-1.4	-3.8	97	92
Alabama	40.8	39.7	37.6	-1.1	-3.2	97	92
Washington	17.7	17.3	17.9	-0.4	0.2	98	101
Kentucky	30.0	31.3	30.4	1.3	0.4	103	100
Connecticut	12.9	13.1	13.4	0.2	0.5	102	104
14 Moderately Small States							
Iowa	13.8	15.4	18.0	1.6	4.2	112	131
South Carolina	31.0	30.9	28.7	0.8	-2.3	100	92
Oklahoma	17.7	18.7	18.7	1.0	1.0	106	107
Kansas	12.6	13.4	14.3	0.8	1.7	106	113
Mississippi	37.3	36.1	32.8	-1.2	-4.5	97	88
Colorado	14.3	14.3	14.9	-	0.6	100	105
Oregon	13.6	13.3	14.4	-0.3	0.8	98	106
Arkansas	23.1	23.1	21.9	-	-1.2	100	95
Arizona	13.1	13.7	13.9	0.6	0.8	104	106
West Virginia	16.4	16.8	16.9	0.4	0.5	103	103
Nebraska	8.9	10.0	10.7	1.1	1.8	112	120
Utah	5.0	5.6	6.3	0.6	1.3	112	126
New Mexico	12.7	12.8	12.2	0.1	-0.5	101	97
Maine	5.5	6.6	7.3	1.1	1.8	120	133
13 Smallest States							
Rhode Island	6.4	6.4	6.1	-	-0.3	100	95
Hawaii	5.0	5.1	4.9	0.1	-0.1	102	98
New Hampshire	2.8	3.5	3.5	0.7	0.7	124	124
Idaho	3.5	4.0	4.4	0.5	0.9	113	124
Montana	4.5	5.6	6.0	1.1	1.5	124	134
South Dakota	5.0	5.7	6.0	0.7	1.0	112	119
North Dakota	4.5	4.7	5.0	0.2	0.5	102	110
Delaware	4.2	4.9	4.9	0.7	0.7	117	117
Nevada	1.9	2.3	2.5	0.4	0.6	118	133
Vermont	2.9	3.1	3.5	0.2	0.6	106	120
Wyoming	1.8	2.3	2.6	0.5	0.8	126	143
Alaska	2.3	2.5	2.5	0.2	0.2	108	106
Washington, D.C.	9.8	9.4	8.9	-0.4	-0.9	96	90

SOURCE: Special tabulations prepared by the National Center for Education Statistics.

A 25 percent increase in the poverty line would produce a sharp reduction in the funds going to several of the large states and, with a few exceptions, would redistribute these funds to the rest of the country. The big losers would nearly all be concentrated in the 12 largest states. They include New York, with a cut of $20 million or 12 percent; Illinois (-$6 million or 7 percent); Michigan (-$6 million or 9 percent); California (-$4 million or 3 percent); and New Jersey (-$2 million or 4 percent). Three other states would have losses of $1 million (Louisiana, Alabama and Mississippi). Most of the other states would receive slight to moderate gains.

With few exceptions, the pattern described above would prevail if the poverty line were raised by 50 percent. In most cases the changes resulting from a 50 percent increase are in the same direction, but larger than those resulting from a 25 percent increase.

Table 26 shows for each state the change in the allocation of funds if the poverty concept were based on two different single thresholds: one-half the U.S. median family income in 1969 ($4,795) and the poverty threshold for a nonfarm family of four persons in 1969 ($3,748). If the higher threshold were used, the results would be very similar to those obtained using the current concept. The allocations to only 7 states would differ by more than 10 percent of the present allocation, and most of these differences would be in the smaller states, representing relatively small amounts of money. If the lower threshold were used, most of the largest states would have gains in funds, largely at the expense of Southern states. Included among the heavy losers would be Texas, Florida, North Carolina, Missouri, Virginia, Georgia, Tennessee, Louisiana, Alabama, Kentucky, South Carolina, and Mississippi. The reason for this change, as previously explained, is that the lower poverty line would include more of the AFDC children among the eligible population under the Title I allocation formula. Most of these children live in the large Northern states.

Impact of Updating the Poverty Count

Table 27 shows the amount of Title I funds each state would receive in 1975 with no change in the allocation formula, with a replacement of the 1970 Census estimate of the number of school-age children in poverty with the Census estimate for 1973, and with a replacement of the 1970 Census estimate with the estimate for 1973 prepared by the Regional Economic Analyses Division (READ). The first three columns of this table show the funds, in millions of dollars each state would receive, assuming a total allocation of $1.5 billion. Column 4 shows the ratio between the amount received using the READ estimate of poor children in 1973 and that received under the current formula; column 5 replaces the READ estimate with the Census estimate for 1973.

These data show that the substitution of current estimates of children in poverty for the 1970 Census estimates, with few exceptions,

Table 26. Comparison of Title I Funds That Would be Received Using a Single Poverty Line with the Amount That Would be Currently Received, 1975
(Millions of dollars; assumes a total allocation of $1.5 billion)

State	Current Poverty Definition (1)	Single Poverty Line		Difference		Ratio	
		$4,795 [a] (2)	$3,748 [b] (3)	(2-1)	(3-1)	$\frac{2}{1}$ x 100	$\frac{3}{1}$ x 100
12 Largest States							
California	$ 128.0	$ 129.0	$ 135.7	$ 1.0	$ 7.7	101%	106%
New York	173.3	156.9	188.6	-16.6	15.3	91	109
Pennsylvania	78.7	77.5	80.0	- 1.2	1.3	99	102
Texas	93.3	93.5	80.3	.2	-13.0	100	86
Illinois	82.4	76.5	93.1	- 5.9	10.7	93	112
Ohio	48.5	52.0	49.7	3.5	1.2	107	103
Michigan	61.8	55.2	68.5	- 6.6	6.7	89	111
New Jersey	44.2	42.9	49.1	- 1.3	4.9	97	113
Florida	48.7	51.9	45.6	3.2	- 3.1	106	93
Massachusetts	30.3	28.5	33.5	- 1.8	3.2	94	110
Indiana	19.5	21.9	18.9	2.4	- .6	112	97
North Carolina	44.3	46.8	38.8	2.5	- 5.5	106	88
12 Moderately Large States							
Missouri	28.2	29.8	25.7	1.6	- 2.5	106	91
Virginia	34.4	36.2	31.3	1.8	- 3.1	105	91
Georgia	44.4	44.7	38.5	.3	- 5.9	100	86
Wisconsin	24.6	24.4	25.2	- .2	.6	99	102
Tennessee	36.1	37.8	32.3	1.7	- 3.8	105	90
Maryland	25.2	26.1	25.7	.9	.5	104	102
Minnesota	24.0	25.4	24.0	1.4	--	106	100
Louisiana	48.5	48.6	45.2	.1	- 3.3	100	93
Alabama	40.8	40.5	35.7	- .3	- 5.1	99	88
Washington	17.7	18.9	19.9	1.2	2.2	107	112
Kentucky	30.0	32.7	29.0	2.7	- 1.0	108	96
Connecticut	12.9	13.3	13.7	.4	.8	103	106
14 Moderately Small States							
Iowa	13.8	15.6	14.0	1.8	.2	113	102
South Carolina	31.0	30.4	28.0	- .6	- 3.0	98	90
Oklahoma	17.7	18.6	17.4	.9	- .3	105	99
Kansas	12.6	13.1	12.2	.5	- .4	104	96
Mississippi	37.3	38.1	35.9	.8	- 1.4	102	96
Colorado	14.3	14.0	13.0	- .3	- 1.3	98	91
Oregon	13.6	14.6	14.5	1.0	.9	107	106
Arkansas	23.1	25.0	22.6	1.9	- .5	108	98
Arizona	13.1	13.3	11.5	.2	1.6	102	88
West Virginia	16.4	17.3	16.4	.9	--	105	100
Nebraska	8.9	10.1	8.8	1.1	- .1	113	99
Utah	5.0	4.9	4.9	- .1	- .1	98	97
New Mexico	12.7	12.9	11.7	.2	- 1.0	101	92
Maine	5.5	6.0	5.0	.5	- .5	109	91
13 Smallest States							
Rhode Island	6.4	6.1	7.2	- .3	.8	96	113
Hawaii	5.0	4.4	5.1	- .6	.1	88	102
New Hampshire	2.4	3.0	3.1	.6	.7	107	108
Idaho	3.5	3.7	3.3	.2	- .2	105	92
Montana	4.5	4.6	4.2	.1	- .3	104	95
South Dakota	5.0	5.4	5.5	.4	.5	107	109
North Dakota	4.5	5.2	4.1	.7	- .4	114	90
Delaware	4.2	3.5	3.0	- .7	- 1.2	83	73
Nevada	1.9	1.9	1.8	--	- .1	101	94
Vermont	2.9	2.7	2.7	- .2	- .2	93	94
Wyoming	1.8	1.9	1.7	.1	- .1	103	96
Alaska	2.3	2.2	2.6	- .1	.3	92	112
Washington, D.C.	9.8	10.3	11.1	.5	1.3	105	112

SOURCE: Special tabulations prepared by the National Center for Education Statistics.

[a] 50% of 1969 U.S. median family income as indicated by the 1970 Census.

[b] Weighted average poverty threshold for nonfarm 4-person family in 1969.

Table 27. Title I Funds to be Received by Each State in 1975 Using Current Allocation Formula and Alternative Estimates of Children in Poverty (Millions of dollars; assumes a total allocation of $1.5 billion)

State	Current Allocation Formula Using 1969 Estimates of Children in Poverty	Current Allocation Formula Using 1973 Estimates of Children in Poverty		Ratio	
		READ estimates	Census Bureau estimates	$\frac{2}{1} \times 100$	$\frac{3}{1} \times 100$
	(1)	(2)	(3)	(4)	(5)
12 Largest States					
California	$128.0	$139.3	$146.2	109%	114%
New York	173.3	194.4	181.5	112	105
Pennsylvania	78.7	76.3	78.4	97	100
Texas	93.3	101.1	88.9	108	95
Illinois	82.4	77.0	90.0	93	109
Ohio	48.5	50.2	49.5	104	102
Michigan	61.8	62.6	68.3	101	111
New Jersey	44.2	54.1	54.0	122	122
Florida	48.7	47.8	51.0	98	105
Massachusetts	30.3	34.3	34.6	113	114
Indiana	19.5	22.3	20.9	114	107
North Carolina	44.3	39.7	40.2	90	91
12 Moderately Large States					
Missouri	28.2	25.8	27.5	91	98
Virginia	34.4	29.3	33.2	85	97
Georgia	44.4	37.3	40.2	89	90
Wisconsin	24.6	24.4	25.2	99	103
Tennessee	36.1	31.3	31.0	87	86
Maryland	25.2	29.4	28.8	117	114
Minnesota	24.0	20.9	24.1	87	100
Louisiana	48.5	48.1	41.1	99	85
Alabama	40.8	41.6	32.7	102	80
Washington	17.7	17.5	20.5	99	116
Kentucky	30.0	29.4	26.2	97	87
Connecticut	12.9	17.2	17.2	133	134
14 Moderately Small States					
Iowa	13.8	9.7	11.9	71	87
South Carolina	31.0	22.8	25.7	78	83
Oklahoma	17.7	16.6	16.7	94	94
Kansas	12.6	10.1	10.2	80	86
Mississippi	37.3	31.0	30.7	83	82
Colorado	14.3	13.2	13.8	92	97
Oregon	13.6	13.4	13.1	98	96
Arkansas	23.1	16.3	19.1	71	83
Arizona	13.1	14.9	14.1	114	107
West Virginia	16.4	14.4	12.7	88	78
Nebraska	8.9	7.5	7.2	84	80
Utah	5.0	4.0	4.0	79	80
New Mexico	12.7	11.4	10.4	90	82
Maine	5.5	8.3	5.1	152	92
13 Smallest States					
Rhode Island	6.4	4.7	6.3	74	99
Hawaii	5.0	4.2	5.1	84	102
New Hampshire	2.8	4.5	3.0	158	107
Idaho	3.5	5.2	3.2	146	90
Montana	4.5	4.1	3.9	93	86
South Dakota	5.0	4.8	4.1	95	81
North Dakota	4.5	2.4	2.9	52	64
Delaware	4.2	4.7	4.4	114	105
Nevada	1.9	1.0	2.6	54	137
Vermont	2.9	3.0	2.8	104	95
Wyoming	1.8	3.9	2.0	218	109
Alaska	2.3	3.6	3.7	152	158
Washington, D.C.	9.8	8.6	9.6	87	97

SOURCE: Special tabulations prepared by the **National Center for Education Statistics.**

transfers funds from the smaller rural states to the large industrial states. Although there are some differences between the Census Bureau and the READ estimates, both sets of data support this conclusion. This change undoubtedly reflects the fact that the slow economic growth experienced in the United States between 1969 and 1973 had a much greater negative impact on the large industrial states than it had on the smaller ones. As a result, relatively more of the nation's poor children in 1973 were located in the large states than was the case in 1969. There is no logical basis for retaining the 1970 Census count of children in poverty in the allocation formula. This procedure was used because it was not considered likely that up-to-date county estimates of children in poverty would be available. The data in Table 27 suggest that if more recent data were available, the Title I funds received by most of the larger states would increase considerably.

Focusing attention on the Census estimates for the 12 largest states in Table 27, we find that two states would receive reductions in funds if the current estimates of children in poverty were used (Texas and North Carolina), one state would have no change (Pennsylvania), one state would have a small increase (Ohio), and eight states would have increases ranging from 5 to 22 percent (Florida, New York, Indiana, Illinois, Michigan, Massachusetts, California, and New Jersey).

The picture is somewhat different among the 12 moderately large states, those with 3-5 million inhabitants. Among these states, we find only three with substantial gains in Title I funds if current estimates of children in poverty were used (Connecticut, Washington, and Maryland), and seven states with losses (Missouri, Virginia, Georgia, Kentucky, Tennessee, Louisiana, and Alabama).

One of the 14 moderately small states with 1-3 million inhabitants (Arizona) would gain in Title I funds if the current estimates of children in poverty were used. Each of the other states in this group would lose funds. The losses would be less than 10 percent in Oklahoma, Colorado, Oregon, and Maine; between 10 and 20 percent in Iowa, South Carolina, Kansas, Mississippi, Arkansas, Nebraska, Utah, and New Mexico; and greater than 20 percent in West Virginia.

The estimates shown in Table 27 for the 13 smallest states are considered too weak to be analyzed meaningfully because of the very small size of the CPS sample in those states. Reasonably reliable estimates for these states will not be available until after the Survey of Income and Education is completed in 1976.

Impact of Changing the Allocation Formula

In contrast to the relatively minor changes that can be noted in most states if the poverty line is increased even by as much as 50 percent, very sharp changes can be noted in most states if the basic allocation formula itself is changed. Table 28 shows the change that would take place if the

Table 28. Comparison of Title I Funds That Would be Received Under Alternative Allocation Procedures with the Amount That Would be Currently Received

States	No Change in Poverty Definition; Change in Allocation Formula to Poverty Only[a]	No Change in Allocation Formula; Increase in Poverty Line by:	
		25 percent	50 percent
12 Largest States			
California	91%	97%	95%
New York	61	88	83
Pennsylvania	76	104	111
Texas	132	105	104
Illinois	70	93	91
Ohio	111	110	120
Michigan	67	91	89
New Jersey	64	96	94
Florida	122	103	104
Massachusetts	76	97	99
Indiana	115	120	135
North Carolina	132	104	102
12 Moderately Large States			
Missouri	119	106	114
Virginia	119	108	107
Georgia	132	100	98
Wisconsin	83	107	116
Tennessee	138	101	101
Maryland	85	107	111
Minnesota	77	104	116
Louisiana	128	97	92
Alabama	132	97	92
Washington	83	98	101
Kentucky	131	103	100
Connecticut	77	102	104
14 Moderately Small States			
Iowa	101	112	131
South Carolina	133	100	92
Oklahoma	129	106	107
Kansas	108	106	113
Mississippi	133	97	88
Colorado	104	100	105
Oregon	82	98	106
Arkansas	132	100	95
Arizona	122	104	106
West Virginia	130	103	103
Nebraska	111	112	120
Utah	119	112	126
New Mexico	130	101	97
Maine	125	120	133
13 Smallest States			
Rhode Island	83	100	95
Hawaii	83	102	98
New Hampshire	103	124	124
Idaho	125	113	124
Montana	109	124	134
South Dakota	121	112	119
North Dakota	126	102	110
Delaware	85	117	117
Nevada	110	118	133
Vermont	93	106	120
Wyoming	95	126	143
Alaska	73	108	106
Washington, D.C.	76	96	90

SOURCE: Special tabulations prepared by the National Center for Education Statistics.

Note: Each column represents a ratio of the amount that would be received using the specified definition to the amount that would be received under the current definition.

[a] The numerator of the ratio shown in this column represents the amount each state would receive if the current poverty definition were used, but the allocation was based only on the number of poor children and not on the current formula. The denominator represents the amount each state could receive using the current definition of poverty and the current allocation formula.

current allocation formula were replaced with a formula that allocates Title I funds solely on the basis of the number of children in poverty as reported in the 1970 Census. If such a change were made, most large industrial states would receive a sharp reduction in Title I funds, and most smaller rural states would receive a sharp increase in such funds. This change is due largely to the elimination of current expenditures per pupil from the allocation formula. Using CEPP to determine funding tends to transfer funds from those states with large proportions of poor children to those that make relatively large expenditures per capita on education.

Among the 12 largest states, three would have reductions of 20 to 30 percent (Massachusetts, Pennsylvania, and Illinois); and three would have reductions of 30 to 40 percent (New York, Michigan, and New Jersey). The three states in this group that would gain the most are in the South: Florida, with a gain of 22 percent, and North Carolina and Texas, each with gains of 32 percent.

Changes of a similar magnitude would be found among the 12 moderately large states. The 7 Southern states in this group would all have gains ranging from 20 to 40 percent, whereas 5 states (only one of which is in the South) would have substantial losses. Among the 12 moderately small states, all but Oregon would have an increase in funds. Among the 13 smallest states, about half would gain, and half would lose funds.

Of all the factors considered, it appears that the allocation formula itself, and particularly current expenditures per pupil, exerts the greatest impact on the allocation of Title I funds. The greatest change in the allocation of funds among states would take place if the funds were allotted on the basis of the number of children in poverty rather than according to the present formula. If the present formula is retained, an increase in the poverty line would have a relatively minor impact on the allocation of Title I funds; however, an updating of the number of children in poverty would appreciably increase the funds going to the larger states and would decrease those funds going to the smaller states.

Joint Impact of Changing the Poverty Definition and Updating the Poverty Count

In the preceding sections, attention was focused on the impact of a change in the definition of poverty or an update in the count of poor children. We shall now examine the impact of a joint change in these variables. Table 29, column 3, shows the Title I allotments to each state in 1975, assuming a 25 percent increase in the poverty line and using the 1973 estimated number of poor children. These figures are compared with the amounts each state would receive if the current formula were used with the 1969 estimate of poor children, and if the current formula were used with the 1973 estimate of poor children.

Table 29. Title I Funds to be Received by Each State in 1975 Using the 1973 Count of Children in Poverty and a 25 Percent Increase in the Poverty Line (Millions of dollars; assumes a total allocation of $1.5 billion)

State	Current Formula, 1969 Estimate of CIP[a] (1)	1973 Estimate of CIP: Current Formula (2)	1973 Estimate of CIP: Current Formula Using 125% of Poverty Line (3)	Difference (2-1)	Difference (3-1)
12 Largest States					
California	$ 128.0	$ 139.3	$ 135.5	$ 11.3	$ 7.5
New York	173.3	194.4	169.3	21.1	- 4.0
Pennsylvania	78.7	76.3	83.3	-2.4	4.6
Texas	93.3	101.1	100.0	7.8	6.7
Illinois	82.4	77.0	70.8	-5.4	-11.6
Ohio	48.5	50.2	62.6	1.7	14.1
Michigan	61.8	62.6	61.6	.8	- .2
New Jersey	44.2	54.1	55.8	9.9	11.6
Florida	48.7	47.8	49.6	- .9	.9
Massachusetts	30.3	34.3	39.1	4.0	8.8
Indiana	19.5	22.3	27.8	2.8	8.3
North Carolina	44.3	39.7	38.8	-4.6	- 5.5
12 Moderately Large States					
Missouri	28.2	25.8	28.4	-2.4	.2
Virginia	34.4	29.3	29.9	-5.1	- 4.5
Georgia	44.4	37.3	36.2	-7.1	- 8.2
Wisconsin	24.6	24.4	30.2	- .2	5.6
Tennessee	36.1	31.3	30.2	-4.8	- 5.9
Maryland	25.2	29.4	35.0	4.2	9.8
Minnesota	24.0	20.9	21.9	-3.1	- 2.1
Louisiana	48.5	48.6	44.2	.1	- 4.3
Alabama	40.8	41.6	38.4	.8	- 2.4
Washington	17.7	17.5	17.7	- .2	--
Kentucky	30.0	29.4	27.8	- .6	- 2.2
Connecticut	12.9	17.2	18.9	4.3	6.0
14 Moderately Small States					
Iowa	13.8	9.7	11.5	-4.1	- 2.3
South Carolina	31.0	22.8	21.8	-8.2	- 9.2
Oklahoma	17.7	16.6	16.2	-1.1	- 1.5
Kansas	12.6	10.1	11.6	-2.5	- 1.0
Mississippi	37.3	31.0	26.4	-6.3	-10.9
Colorado	14.3	13.2	13.0	-1.1	- 1.3
Oregon	13.6	13.4	8.6	- .2	- 5.0
Arkansas	23.1	16.3	15.0	-6.8	- 8.1
Arizona	13.1	14.9	16.3	1.7	3.2
West Virginia	16.4	14.4	13.8	-2.0	- 2.6
Nebraska	8.9	7.5	9.3	-1.4	.4
Utah	5.0	4.0	4.7	-1.0	- .3
New Mexico	12.7	11.4	10.2	-1.3	- 2.5
Maine	5.5	8.3	9.8	2.8	4.3
13 Smallest States					
Rhode Island	6.4	4.7	4.5	-1.7	- 1.9
Hawaii	5.0	4.2	4.2	- .8	- .8
New Hampshire	2.8	4.5	5.3	1.7	2.5
Idaho	3.5	5.2	6.0	1.7	2.5
Montana	4.5	4.1	4.8	- .4	.3
South Dakota	5.0	4.8	5.2	- .2	.2
North Dakota	4.5	2.4	3.1	-2.1	- 1.4
Delaware	4.2	4.7	5.5	.5	1.3
Nevada	1.9	1.0	.9	- .9	- 1.0
Vermont	2.9	3.0	3.3	.1	.4
Wyoming	1.8	3.0	4.4	2.1	2.6
Alaska	2.3	3.6	3.4	1.3	1.1
Washington, D.C.	9.8	8.6	17.6	-1.2	7.8

SOURCE: Special tabulations prepared by the National Center for Education Statistics.

[a] CIP represents children in poverty.

The change in both variables would, with some important exceptions, have the same impact as that previously described for updating of the poverty count alone. That is, there would be a transfer of funds from the small states to the large ones. Among the 12 largest states, 8 would receive an increase in funds, the same number as that previously noted for a change in the poverty count alone. New York, an important exception, would have gained considerably from an update of the poverty count alone, but would lose slightly if both variables were changed at the same time. Illinois and North Carolina would also lose considerably if both variables were changed at the same time. The gains for the other large states were largely offset by declines in most of the 12 moderately large states and in nearly all of the moderately small states. On the other hand, most of the 13 states with less than 1 million inhabitants would gain as a result of this change; however, these changes are subject to large errors of estimation.